Promoter's Address.

Delivered on Graduation Day (Aug. 1st, 1896) at Edinburgh University,

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"There are three things which the wise man ought to reverence—the laws of heaven, good men, and the words of great men."—CONFUCIUS.

FELLOW GRADUATES,—As I sat in the Examination Hall on June 17th waiting until the candidates had finished the paper on Surgery, as I looked on their earnest, anxious faces, as I thought on the possibilities and potentialities in those before me, I saw as it were a tremendous "engine" consisting of a number of separate "egos" which would shortly be spread over the entire world and would have an influence for universal progress in so far as each "ego" worked individually for his neighbour's good and by coöperation with his neighbours, "with the external conditions of his existence" and with his surroundings, for the good of the community, and for the good of the race. Many thoughts crowded on me. Who was to succeed? Who was to fail? Who was to be happy? Who was to be unhappy? These questions resolved themselves into—What is success? What is failure? What is happiness? What is unhappiness? These in turn centred in one problem—How are we to live so that when our time here is ended it may be said of us that we had "lived completely," that we had done our duty, and that we had added our little to the universal progress? I thought of James Hinton's words: "To be contented I must toil, not for comfort, nor for money, nor for fame, nor for love, but for truth and righteousness." Our profession seemed to me to be only a means to a great end. I tried to get beyond the externals, the advantages, the opportunities which we possess, and to get at the essentials. I tried to get at the man and to forget the physician and surgeon. Is there any great law applicable to all of us (with our present knowledge and remembering our imperfections) which, if we can but grasp it, will be a help to us? If so, then it must be some law applicable to all living things. It must have its source in the source of all life, in the Creator in whom "we live and move and have our being." From Him we came and to Him we must give an account. "Let us begin by stating at once that we"—it is the authors of the Unseen Universe who speak—"assume as absolutely self-evident the existence of a Deity who is Creator of all things." The law is continuity, the watchward progress, the worker evolution, the result a higher and higher unfolding—physically, psychically, and spiritually, the framer and director God. We do not know of the beginning; we cannot see into the future. The end is not yet. Our view is a very limited one. We can only go back to that manifestation of life known as protoplasm. From it we can advance by steps, some distinct, some indistinct, some as yet in darkness, some in bright sunlight, until we arrive at present man, its highest product. From protoplasm to present man is but a short term in the long vista stretching back before protoplasm and stretching forward after man, as we now know him, to a man who will be as much above present man as present man is above protoplasm. If we believe that our present state is but a foretaste of man's higher development, and if we believe that our present duty lies in helping on that development, then we have a good reason for our present existence and a hope for the future. If, on the contrary, we believe that this universe has now reached its best and is on the down-grade then what hope have we? Our best work will simply be one of retardation or decay. We will no longer be builders but buttresses, and our best hope can only be that we may delay the catastrophe to which we are all hastening. We will only act as drags. We will possibly watch the descent with interest, but we can no longer cherish a hope that man has yet a higher platform on which there may be developments for which words have not been coined, because we cannot even dream of them. Is there any evidence in support of an optimistic view? Has evolution ceased? Is involution commencing? The present is man's opportunity, the past his study, the future his hope. To read the future we must study the past.

A generation has passed away since we listened to John Goodsir's lectures; since he entered the theatre leaning on Mr. Stirling's arm; since his keen eye swept round the anatomical benches; since he held up his big hand to emphasise some point in anatomy; since he pointed so earnestly to some minute foramen in a bone, magnetising us and making us all feel that we distinctly saw it: since he gently stroked the kidney, saying, "Gentlemen, the kidney is kidney shaped"; and since when he forgot a word he would reverently ask a junior student to help him, and when he was told would, with a kindly "I thank you, sir," proceed with his lecture. We felt drawn to him; we loved him; we often did not understand him, but his memory will be ever dear to us as a man who, in much pain and suffering from a slowly advancing and insidious form of paralysis, nobly did his duty. After his death it was said "since the days of John Hunter no greater master of anatomical science, no keener investigator of phenomena, no more comprehensive grasper of generalisations, no clearer or more effective expositor ever dedicated himself to the great subject of anatomy, human and comparative, than John Goodsir."

John Goodsir, in his classical paper on the Centres of Nutrition, wrote: "The centre of nutrition with which we are most familiar is that from which the whole organism derives its origin—the germinal spot of the ovum. From it all the other centres are derived." Goodsir, a man of large heart, gives the credit of this generalisation to Martin Barry. He speaks of the centre cell as *the mother* of all those within its own territory. He looks on the nucleus as the source of successive broods of young cells. He calls his paper the Centres of Nutrition and he likens the cell to "a mother." Here we have the two essentials of all life if it is to be permanent—nutrition and reproduction. We now know that the cell divides in order that it may be nourished. Its nourishment passes through the cell wall, and as it increases in size a time comes when it can no longer be nourished, because as it doubles its size it only increases its surface four-fold, while its mass is increased eight-fold. To live it must divide, and in this division the original cell disappears. It dies in itself, but it lives in others, handing on its physical and psychical elements to its children. In this we have the foreshadowing of all true religion—self-sacrifice. It is, as Goodsir called it, truly a mother cell. If we trace these two cells they become four, eight, sixteen, thirty-two, and so on. They join together and form a mass. Here we have potential coöperation, and if the coöperation is healthy we call it co-relation. Next comes differentiation, some cells in the mass undertaking one kind of work and others another. Here we have organs which in their turn co-relate and coöperate. Each cell has its neighbour cells, it environment, its surroundings. Will it simply utilise these neighbours or will it do more—improve them? If the latter we will not simply be witnessing a struggle for existence (the survival of the fittest), but a struggle for another's existence, selfishness or selfism, replaced by unselfishness or otherism (altruism). Nutrition will not be their *only* aim, but sympathy associated with it in the daily work of life. For "cell" read human being, "male and female created He them." In the male we have the emblem of nutrition and its ally competition (the struggle for life), and in the female the emblem of reproduction and its handmaiden sympathy (the struggle for the life of another). In each cell these two elements exist side by side. In the higher animals they are evidently separated. In the cell we cannot see that they are separate, but I believe that it exists as truly in the one case as in the other. Any one who has followed the latest discoveries in the division of the nucleus and the complex changes which take place in it (*karyokinesis*) will find it difficult to deny the possibility of a separate male (paternal) and female (maternal) element in the most elementary cell. Our bodies are made up of these cells and there is going on within us the double process of nutrition and reproduction which is in every particular the prototype of the processes of nutrition and reproduction as we see them in the higher animals, with all the psychical forces in full play, so closely associated with these two great manifestations of life. In each cell we have possibly the father side (the paternal), with its outcomes, strength, courage, endurance, and self-reliance, and the mother side (the maternal), with its out-comes, tenderness, gentleness, unselfishness, and self-sacrifice.

It is not my duty, nor is it my province, to trace the gradual development of man. I believe that it has occurred,

and such a belief does not lower my opinion of man, but it certainly increases my respect for the lower animals. "Evolution is the very highest proof of the wisdom and skill of the Creator." As Henry Drummond says, "Evolution and Christianity have the same author, the same end, the same spirit." In evolution both elements—the father and the mother—are working silently and continuously. Both are necessary. Let both have their true place.

The helpless child was the great teacher of the mother. There is nothing that a true mother will not do for her child. Its helplessness was her teacher. At first the father held aloof, but in time the child became also his teacher, and he learned from his child's weakness that he must become its guardian and feed it when hungry. He must go abroad for food, for himself primarily, but he soon learns to preserve the best pieces and to take them home to his child. He will in time sacrifice himself for his child; he was first taught this lesson by the death of the mother.

The two lines, the father line and the mother line, have now come so close together that we find them commingling. We find men and women assisting each other in every good work, in all endeavours for the good of others, in their amusements and in their professions; and the danger now seems to be that the sympathetic column will obtain the mastery over the self-reliant column. In the past we had muscle-Amazons—Amazons in war. At the present the tendency is to brain-Amazons: as Tennyson sings:—

> "With prudes for proctors, dowagers for deans,
> And sweet girl graduates in their golden hair."

But the muscle-Amazons are not yet a fossil group. We find strong women in our circuses, gymnasiums in our schools for girls, and women cyclists on our tracks and in our streets—all, from an evolutionary point of view, protesting against this brain age, with its attendant evils, nervousness, neurasthenia, and neuralgia, and feeling within them an urgent necessity for a return, in part at any rate, to the muscle age, because to be good mothers they must be healthy women. Do not let it be supposed that muscle work will ever take the place of brain rest. Exercise of the muscles will increase the nutrition of the brain, but true brain rest is a change of brain work. Your profession is a brain profession, and you will do well to cultivate a brain hobby as a relaxation from your professional brain-work. This is the intellect or brain age. Battles are now fought in the study, campaigns are all drawn up and pigeon-holed in the War Office, ready for any emergency, long before the battles are fought. Ironclads are under the complete control of one man in a conning tower, who can steer, fire, advance, or retreat. Physiology teaches us that overwork of an organ may end in disease, and it is a comforting fact that those who have paid special attention to the diseases of the brain tell us that there is no increase as yet in insanity. Dr. Clouston says in 1893, speaking of insanity, "It is by its nature and heredity *own brother* to epilepsy, idiotcy, convulsions, dipsomania, paralysis, and St. Vitus's dance, while it is *first cousin* to neuralgia, asthma, diabetes, and nervous exhaustion." It is my opinion that if the present age is one in which the brain is becoming the important factor it is above all things necessary to keep up the correlation between the muscles and the brain. If the brain is the pulling horse in the pair, then we must apply the curb to it and the whip to its neighbour, and in every way encourage a high nutrition and its "own brother," good muscles, and its "first cousin," a healthy nervous tone. Our asylums must not be taken as the test of the question. We must look to the daily work of practitioners in medicine and surgery. For my own part I think the nervous element in my practice is becoming year by year a more important factor in successful treatment. I recommend you to study Dr. Clouston's address to the Royal Medical Society in January of this year, in which he says: "The nervous and mental element will have to be more and more considered in the future by the physician and surgeon in its prophylactic, etiological, and therapeutical aspects." John Goodsir, in his address to the graduates in 1859, says: "The greater liability of man to disease is intimately related to his higher conscious intelligence." And, again, he says: "In the treatment of disease the adjustment may require to be, and as a general rule must be, directed more or less as well to the psychical as to the physical conditions of the case." He fully appreciated forty years ago the brain-side of your daily work. In the same year, as President of this Medico-Chirurgical Society in this city, he asks this question, "Under what conditions can the health of individuals be preserved and developed so that life may reach its maximum in the present state of society?" He says: "The importance of this question can only be appreciated by those who have studied that complex system of intimately connected conditions—'moral, psychological, and physical' [note the order of importance in Goodsir's opinion]—on which human life depends." And in the same hall in which Dr. Clouston spoke in 1896 John Goodsir in 1856 wound up an address to the members of the Royal Medical Society with these words: "I am compelled to assume, as the guiding principle of my physiological studies, that the living organism is a co-ordinated system of psychical powers and physical forces, and that, except as part of such a system, organisation cannot occur." John Goodsir was verily a true prophet. If we look to the evolution of our own profession we find that the first doctor was a woman—a mother; the first patient, her child; pain its malady; massage her treatment; man, the father, was her pupil; and when other people's children required medical aid *he* went abroad and practised on them the knowledge he had gained from observing the treatment of his own child by its own mother. The family was the clinique, a covering of boughs the ward, the woman the teacher, the man the student, and the child the patient. It is, then, no new thing; long ago in Italy there were learned female doctors, and Burke tells us of fair scholars and doctors who graduated in the schools of Cordova in Spain many hundred years ago. Even in Fife in 1650 we had a learned woman whose skill was so great that patients came from all parts of England and Holland to see her—Anne Murray, wife of Sir James Halkett of Pitfirrane. She herself tells us in her autobiography that after the battle of Dunbar she attended three score wounded soldiers, "dresed by me and my woman, and Ar. Ro., who I imployed to such as was unfitt for mee to dresse." Who Ar. Ro. was I have not been able to find out. Was he a surgeon who acted as her dresser? It has also to be remembered that one very important branch of the profession was completely in the hands of women from the beginning until 1663, when in Paris a bold man, Julian Clement, undertook the work at the request of an equally bold woman. This branch has now passed into the hands of men, although we see signs which would indicate that an endeavour is again being made to restore this work to its original workers. Dr. John Brown ("Rab and his Friends") was a firm believer that this branch of the profession should always be in the hands of women. The renewed experiment in literature, science, and medicine will be watched in all its bearings with interest. Up to this time it has not been a lasting success.

I have not time to dwell on the evolution of mind and of language—mind's interpreter. As the physical body of the infant in embryo passes through its ancestral forms to reach full development, so with its language—comparative philology—and so with its mind—comparative psychology. This was a favourite subject with John Goodsir. Romanes has done much to enrich it in recent years. There can be no doubt that if you can believe that your dog loves you as you love him, and that his love of you is not simply a question of food, then the story of Gelert is not a fable nor Greyfriar's Bobby a dream. I have operated on a dog and he licked my hand after I had relieved him of a painful disorder. I have heard of an English terrier who took a short cut when the pony of which he was left in charge ran away so that he might stop him at Ramornie Gate, through which he knew the pony would run, knowing full well that he would make for home, his stable, his manger, and his food. I have heard of a Scottish terrier who belonged to a student, who, when the student (as students do) sat up late at night, wearing out his brains, first tugged at his trousers, and as that would not do went to his bedroom and brought his pyjamas and laid them at his feet—a sufficiently broad hint even to the most absent-minded that it was time to go to bed.[1] Undoubtedly in the lower animals we have much to interest us in the study of the evolution of the mind. Some would go further and say that in many of the lower animals we see psychical actions which men would do well to copy. One has well said "the only genuine brute is a degenerate man."

Gradually man became more and more sympathetic, more

[1] I have since heard of an American terrier who, when his master was leaving home to go on a long journey, brought a bunch of forget-me-nots and laid them at his master's feet.

self-sacrificing, more reverent, and then we had man the highest animal physically, the highest animal psychically and able to understand the spiritual. "That is not first which is spiritual, but that which is natural, and afterwards that which is spiritual." Man became a religious animal. He had now learned "to do justly, love mercy, and walk humbly before God."

Is the application of evolution to our bodies, our minds, and our religion irreverent? Is the Master of Balliol irreverent? Is Henry Drummond irreverent? Is John Watson irreverent? Read the "Evolution of Religion," read the "Ascent of Man," read the "Mind of the Master," and you will rise from their perusal with your reverence strengthened for your Creator, your equals, and your inferiors; reverence for your Creator, worship; for your equals, brotherly love; and for your inferiors, pity and kindness. You will then be able to appreciate the pedagogic school of Goethe and all the beautiful words used by Carlyle in his address as Lord Rector of your University in 1866. The highest reverence is associated with the highest intellect. "The wiser a man is the more he desires to be taught." The strong man is a humble man, and the weakling is an irreverent conceited man. Read the account of the meeting of the students with the wise men from all parts of the universe, who came here to pay reverence at the temple of intellect on the tercentenary of your university in 1884. Remember a meeting lately held in Glasgow to do reverence to intellect, to do honour to William Thomson (Lord Kelvin). Think of the great gathering at the grave in Dumfries ten days ago. Think of Lord Rosebery's words of "inspiration and sympathy" for him who sang of himself 127 years ago:—

> "He'll hae misfortunes great an' sma'
> But ay a heart aboon them a';
> He'll be a credit till us a';
> We'll a' be proud o' Robin."

Goodsir taught those who were his pupils reverence. He was in the highest sense a scientific, knowledged, reverent man. He would not accept the evolution of his day as it was understood in his time, when the physical ascent of man—and the ape-idea as man's progenitor was the guiding principle (with the pass-words, the struggle for life and survival of the fittest)—and when the psychical element was still in abeyance and the spiritual unknown in the evolutionist's creed. Thanks to Edward Caird and Romanes we can now include these elements in the law of continuity. The universe is not a campanile, with man at the apex; but, as Cleland puts it, a temple with many minarets, the highest of which is man; some finished and necessarily decaying, some in ruins as the parasites, but man's still incomplete, with its three elements, as Goodsir taught us, following St. Paul, body, soul, and spirit—sarx, psyche, and pneuma. It was Goodsir's reverence which prevented him accepting evolution as it was taught in 1860.

Much of the present irreverence will pass away when we can join all men in one common faith, when the scientific man will look on the theologian with reverence, when science and religion will join hands in the struggle against materialism. Would that all scientific men would feel that, as Mr. Balfour, Chancellor of this University, says in his work on "The Foundations of Belief," "Through the aid of Christian doctrine we are saved from the distorting influence of our own discoveries." Would that all theologians would see that in true science there is nothing in common with "science falsely so-called." Why are they still more or less separate? Because of the innate fighting tendency, the animal in all men, and because of the narrowing, blighting effect of specialism. We now want men who can look at the best in everything. We want peacemakers—men to preach what Edward Caird calls "the great reconciling principle of development," to instil in us "a deeper consciousness of the nearness of God to man, a confirmation of the Christian faith that the kingdom of Heaven is in the midst of us, and that the service of humanity is the true and only service of God." The scientific man and the theologian have much in common. They are both "seekers after God." "Now, Mr. Stirling, let us have God's truth in the measurements." "God's truth in everything; I live for that," as John Goodsir said to Archibald Buchanan Stirling. James Hinton said: "The road, the only road, to knowledge lies in the patient and humble acceptance of our ignorance." Let leaders in religion and science both but say and feel that they are liable to err, that they now see through a glass darkly, and the first great step to a knowledge of the fact that "science (all knowledge), instead of appearing antagonistic to the claims of Christianity, is in reality its most efficient supporter." "Science and religion neither are nor can be two fields of knowledge with no possible means of communication between them." May we join in the hope of the authors of "The Unseen Universe" when they ask "that the followers of science on the one hand and of revealed religion on the other may meet together and recognise each other's claims without any sacrifice of the spirit of independence or any diminution of self-respect" That hope will be greatly strengthened within us if we can but appreciate James Hinton's words: "Be reverent where you are ignorant. Attach no weight at all to your naturally *feeling sure*. We almost always naturally feel sure wrong; it is our fate, it is our very being."

What bearing has all this on the practice of our profession? Surely it is this, that we must learn to look on our patients as men with a psyche and a pneuma. We must recognise that their diseases are not simply departures from a state of physical health, but are quite as frequently departures from their intellectual and moral health. Let me quote John Goodsir's words, as President of the Medico-Chirurgical Society in 1859, addressed to the members of the profession in Edinburgh. He said: "How essential must it be in the practice of our profession to possess a clear and comprehensive perception of those natural arrangements by which human life is conditioned and modified. We are apt to look for them in the dissecting-room and pathological theatre and are apt to forget that their most influential elements lie beyond the reach of the knife and the penetration of the microscope." If there is this close connexion between the physical, psychical, and spiritual elements in man, what an important bearing it has on your daily duties as physicians and surgeons. Your character and your demeanour, founded on your psychical and spiritual attributes, will have much to do with the recovery of your patients. Yet, again, Goodsir says in his address as Promoter in 1859 (the position I now occupy), "This character and this demeanour will best be secured by looking on your profession not as a mere science with its formal application, but as an extended series of duties, the nature and scope of which are indicated in the very nature of the profession itself." These are Goodsir's words addressed to the medical men of this city and to the graduates of this University. They are reproduced here because of their inherent truth, because I cannot put the physician's and surgeon's ideal in better words, because I would wish to-day, along with my colleagues, many of whom were his pupils, to pay reverence to a man whose teaching *has* borne fruit in us, his pupils, and whose example will through you, who have been our pupils, bear fruit in the future, if our example and your work are founded on a comprehensive grasp of the responsible position in which you have to-day been placed as members of a noble profession.

We shall ever revere the memory of John Goodsir. Let me read to you a letter of his. It may help you to estimate the man. He was no visionary. He had a fund of common sense.

"Edinburgh, Wednesday, Feb. 15th, 1843.

"MY DEAR HARRY,— ..... Now in the midst of all this pushing forward in science I trust you will not take it amiss when I ask you whether you are doing everything in your power to keep up the practice. I know the difficulty of combining science and practice. One man only, as far as I know, ever did it perfectly—John Hunter—and any man may do it if he has sufficient self command. Time you must be economical of—get time by rising early; at present I get, and you may too, a whole hour of good daylight for observations before breakfast, and as the season advances you will get more of it. No truly great man, certainly no eminent scientific medical man, ever lay in bed in the morning; get off to your patients before nine; call on them all. I used to be very careless in this respect. I called only when I thought it necessary. Now, if the patient wishes, you are to call as often as possible. You are, or ought to be, paid for it. I have been careless in this respect since I came to Edinburgh, but I am now a most diligent, regular, and punctual caller, and I am already feeling the benefit. Want of punctuality and consideration for the wishes of patients is unprofessional. Look at Abercromby, a perfect clock and as rich as a Jew, and a great physician besides. If you and I be fortunate enough to get the respective museums in Edinburgh then we

shall do all we can to get practice, for whether we ultimately teach anatomy or not, practice I am determined we shall attend to, for pathology and physiology or anatomy can never be advanced in a proper way by a man who is not in the habit of daily considering and treating cases of diseases and injury. You, Archie, and I will, if we play our cards well, make a very formidable trio in Edinburgh. It is time our family as doctors should be transplanted. We have been too long (eighty years at least) in the East of Fife. Think of this, and I am sure you will make every effort by coöperating with your father and paying every attention to the public to secure its confidence and affection. Send your paper on Friday, but don't neglect the practice, and believe me "Yours affectionately,

"JOHN GOODSIR."

Of the two brothers mentioned in this letter Harry died at his duty with Sir John Franklin in the search for the North West Passage. John Goodsir gave him his silver spoons, which were found amongst the ice in 1854, and are now in Greenwich Hospital. Archie, the youngest son, studied medicine in the best schools in Europe and came home to die—too truly a victim to his zeal in anatomical pursuits. John Goodsir died at Trinity in 1867 in his fifty-fourth year. At his bedside lay "Quain's Anatomy," "Newton's Principia," and his Bible, fit examples of the three elements in man in which he firmly believed and which he taught.[2]

When I think of John Goodsir I cannot disassociate him from "Mr. Stirling"—Archibald Buchanan Stirling. Two hundred years ago a sergeant in a marching regiment met the daughter of a landed proprietor in Perthshire. They fell in love and married. The lady, cast off by her friends, her husband sent to Spain, there to die in battle, was left a widow with one little girl, called Jean. The widow had a hard struggle to make both ends meet. Jean was Stirling's grandmother; his grandfather was James Stirling, a ploughman in Kilsyth. James Stirling, his father, was their eldest son. He went out to herd cattle when seven years old and married in 1800 Janet Buchanan. (Sir William Turner lately reminded me that Mr. Stirling used to say he was first cousin of Mr. Buchanan, President of the United States from 1857 to 1863.) They had a large family, and their son Archibald Buchanan had to turn his hand to many things—shoemaker, policeman, and gamekeeper—before he became the Assistant Curator of the Anatomical Museum of the University of Edinburgh. Dr. Adamson of St. Andrews, in recommending him to Professor Goodsir, described him as "an innate gentleman in the garb and position of a servant." I possess several of Stirling's letters, and I may read one or two extracts to show you the "kind of man" he was. On April 7th, 1856, Mr. Stirling wrote to Mr. Goodsir saying, "In fact, sir, I feel I am the kind of man you want and yours is the situation I would like if you offer me a living above hardship." Again, on May 5th, 1856, he wrote: "I am with you heart and hand. I saw so much beyond my handycraft when in your museum that I come as a delighted child having all to learn, and will endeavour, by aptness and emulation, to get on to your satisfaction." Mr. Stirling, after Mr. Goodsir's death, remained for fourteen years with Sir William Turner, and looking back on five of these years I feel that it is difficult to express what I, in common with the other demonstrators, owe to Mr. Stirling's example. He was a man of simplicity, energy, knowledge, skill, and genuine kindliness. He joined Mr. Goodsir in 1856; he died at Thankerton in 1881 aged seventy years, serving the anatomical department in the University faithfully for twenty-four years, and I am sure that Sir William Turner will bear me out when I say that no kindlier or more modest man ever lived than our friend Archibald Buchanan Stirling. If we read rightly Goodsir's life and Stirling's life we will find in them the truth of the statement in Galton's work on "Hereditary Genius" that the mothers of scientific men are a most important factor in their evolution.

On Oct. 28th, 1884, the late Sir Alexander Grant, then our Principal, when he opened the fourth century of this University, in an address to the students used these words—they were his last public words, for his death took place on Nov. 30th in the same year, "the great province for philosophy in the opening century will be to give assurance that the glorious increase of physical knowledge is not destined to be the mere increase of sorrow; that the hope of the Christian is not an idle dream that mankind is not left fatherless, with no answering heart in the void abyss." May we, with Sir Alexander Grant, echo the words made use of by Count Saffi to the students of Edinburgh in this hall when he said "the grand, the noble, and the inspiring feature which struck me in the celebration of your tercentenary, was the harmony, the union—the intimate union—between religion, patriotism, and science, which has presided over all the proceedings. I am happy to be able to take home to my country-men your example and to try to convince them of the necessity of the union of the moral element with the scientific and the merely intellectual in the work of life. My faith in the Eternal Ideal is completed, is confirmed, by seeing before me this gathering of young men who represent the hope, the promise, and the force of a noble future for the present generation and for many generations to come."

Fellow graduates, may I, in the same hall in which Count Saffi and Sir Alexander Grant spoke in 1884, ask you to-day to remember their words and may I, in the name of my colleagues, express the hope that there may be some of you present to-day of whom it will be said, when the fourth century of our University is completed, that they took a leading part in uniting "the moral element with the scientific and the merely intellectual in the work of life"? "*Per arduæ ad alta*" will be their motto; "Do and Hope" will be their watchword.

[2] There were five brothers and one sister—the "trio" mentioned in the letter and Joseph Taylor Goodsir, Robert Anstruther Goodsir, and Jane Ross Goodsir. Joseph, Robert, and Jane left all they possessed to the University of Edinburgh in honour of their brother, Professor John Goodsir.

A PROMISING TREATMENT FOR LEPROSY.

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THE treatment of leprosy is so eminently unsatisfactory that any suggestion which promises to be an improvement on the old methods ought to have a patient and extensive trial. It is in the hope of obtaining this that the history is given of the treatment of two cases with such marked improvement in both as to make it improbable that it is accidental and to justify those who have charge of leper asylums in trying it more extensively than can be done in this country, where only a small number of imported cases come under observation. Hitherto the treatment of leprosy has depended upon—(1) removal of the patient to more favourable conditions of soil, climate, and personal hygiene; (2) the administration of Chaulmoogra oil in adequate doses or of its derivative, gynocardic acid—I exclude gurjun oil, as in this climate, at all events, it is a total failure as far as internal administration is concerned; (3) the inunction of oleaginous substances, for which also a favourable place is claimed for gurjun oil, but as in two cases where gurjun was rubbed in one side and olive oil on the other the latter was at least as efficacious and certainly much preferred by the patient, even for this purpose not much can be claimed for gurjun oil; and (4) the aim must be to keep off as long as possible the recurrent febrile exacerbations, which may be effected to a considerable extent by guarding the patient against chills and depressing influences of mind and body. It will be seen, therefore, that the drug treatment is practically limited to Chaulmoogra oil, such drugs as quinine and salicylates being useful only in febrile attacks. Chaulmoogra oil, however, in order to get any tangible effect must be taken in large doses such as from 50 to 100 minims a day or more, but in a large number of instances these doses are not tolerated by the patient, many being unable to retain as little as three five-minim capsules a day, and anything less than thirty minims a day is, in my opinion, futile. Mercury and iodide of potassium administered by the mouth have had extensive trial in former days, but were of little or no service and have long been abandoned, but I am not aware that mercurial injections have been tried, and I was led to do so by the following case. The patient came from one of our colonies, but to prevent possible identification I omit the name of the colony.

CASE 1.—The patient was aged thirty-six years and came under observation in March, 1895. She was suspected of being a leper and was put in quarantine for observation by

the authorities, but suspicion that the symptoms might be due to syphilis having arisen, injections of perchloride of mercury were given with such marked improvement that the diagnosis of syphilis was confirmed and she was released and immediately came to this country, the practicioner who sent her to me, whose name I also omit advisedly, being well aware that the disease was really leprosy. As I could find no symptoms of syphilis the rapid improvement whilst in quarantine suggested that the mercurial injections had a beneficial effect on the symptoms of leprosy and I resolved to continue them. A fresh solution of perchloride of mercury, three grains to the half-ounce of distilled water, was made, and a Pravaz syringeful was injected once a week into the buttock, the surface being previously cleaned by means of wet alembroth wool. The needle was plunged perpendicularly well into the buttock; and here it may be observed that the Pravaz syringe is one of the best for use: it is cheap and can be reserved expressly for the sole use of the patient. With the exception of the needle the whole is of vulcanite and glass and is not, therefore, acted upon by the perchloride of mercury, and, finally, it holds a cubic centimetre or about fifteen and a half minims, and a syringeful of the strength above mentioned is about equivalent to one-fifth of a grain. To return to the patient. It was difficult to obtain a quite consistent history from her. Her friends are sufficiently well off to maintain her in this country. She has an elder sister who has leprosy. The date of onset of her own disease is not quite certain except that she had indubitable symptoms in September, 1892, and there was a history of ill-health as far back as 1887. At all events when she presented herself to me the disease was not advanced. The face as a whole was of a pale mahogany tint; puffiness and swelling were most marked over the right orbit only; both lips were moderately swollen. Both orbital ridges were moderately swollen, the left the most. There was a large pea-sized nodule on the right side of the chin; there was a small one to the right of the tip of the tongue. The ears were normal. There were some scars on the left wrist. There was partial anæsthesia on the ulnar border of the back of the right forearm. There was partial anæsthesia on some of the scars on both wrists and forearms and no other anæsthetic areas. There were numerous orange stains all over the limbs, but only on the back of the trunk. These marked the site of former erythematous patches, but there was only slight infiltration left in places, most marked on the buttocks. There were no pains and no sweatings, only great languor. There were no visceral complications. There was some tenderness of the left ulnar nerve above, not at, the elbow. At first she was ordered salicylate of soda and nux vomica and Chaulmoogra oil five minims twice a day, and some grey powder three times a day, and there was slight improvement three weeks later after the onset of the catamenia, which had been absent for some time. The perchloride of mercury injections, one-fifth of a grain, were commenced on April 19th, and a month later it was noted that the infiltration of the face and hands was distinctly less; the injections were, therefore, continued regularly once a week even when I was absent for five weeks in August and September on my holiday. On my return I observed a marked improvement, the face being much less swollen and discoloured, so that her appearance would scarcely attract attention. The puffiness of the hands was also gone and the discolouration diminished. In my absence Mr. Campbell Williams substituted sozodolate of mercury for the perchloride, but the pain at the time was much greater and lasted for several hours, while after perchloride the pain lasted only half an hour and was not severe. This salt was, therefore, resumed, and has been continued to the present time. Once there were slight symptoms of salivation and an injection was omitted, but this has not recurred. On July 31st, by which time she had had nearly sixty injections, it was noted that her face was wonderfully clear and was not much more discoloured than that of any person who had been subjected to a tropical sun, but there were still some stains on the body. During the last two weeks nodules had appeared in the skin without any other symptoms. There had been two on the thigh and one on the forearm; one of the thigh nodules had disappeared again. Except for the stains on the body I think I may say that no one, even an expert, would recognise from her facial aspect the nature of her disease. At first she continued to take Chaulmoogra oil as well as having the injections, but she could never get beyond twenty-five minims, and could not take it for any length of time, having to suspend it altogether and then begin with small doses again; latterly it has been given up entirely. I do not think, therefore, it has had any important share in the evident improvement. The case was, however, a mild one for tuberculated leprosy, and further experience was required, and this was afforded by the next case, which was more advanced and possessed more marked symptoms of every kind.

CASE 2.—This patient was an artisan missionary aged thirty-seven years, who was sent to me by my friend, Dr. Bruce Goff. He had been working in the Zambesi district of Africa for ten years, a very malarial district, and he had suffered from many attacks of ague. The leprosy was of two years' duration and the onset was very sudden, a copious and general erythematous eruption having come out suddenly and increased till nearly the whole body surface was of a uniform red colour. Next he noticed great pains in the feet, especially along the outer borders; then he had "pins and needles" in the hands, especially on the radial side, and he was extremely drowsy; profuse sweatings developed, but these soon ceased on the hands and feet, which became quite dry. He was still unaware of the nature of his malady, thinking it due to sunburn, but his features began to thicken, and a year ago his friends noticed how much he frowned. He came to England in July, 1895, and did not think that he had been any worse since. He had been under the care of Dr. Bruce Goff and had been seen by Dr. MacCall Anderson, but had never been told the exact nature of his disease. I first saw him on Jan. 3rd, 1896, and his condition then was as follows. The whole body and upper limbs were nearly uniformly covered with erythema and brown stains of older lesions, but there were some healthy areas about the clavicles. The hands were swollen and dusky brown, though, of course, due allowance must be made for sunburn, and had the characteristic soft, silky feeling. The face was much infiltrated about the brows and cheeks, and there was a hard lump in the right cheek about an inch in diameter. There were a few nodules on the forehead and lips. The ear lobes were long and pendulous. The condition of the face is well shown in Fig. 1, from a photograph which was taken by magnesium flash-light; hence the closure of the eyes. The thighs resembled the rest of the body, but there were more healthy areas; the back was more covered than the front. The legs were not so bad as the thighs, but at one time they were the worst, but were getting paler. On the feet, the toes and border of the feet were red and shiny, but the rest of the foot was only discoloured. The nails, he says, were altered, but they were not thickened or thinned. The left foot was rather worse than the right. With regard to sensory disturbance, the sense of pain was abolished along each ulnar border, but tactile sensation was not affected. On the feet sensation was diminished to pain, but unaltered as regards touch. He was admitted into University College Hospital on Jan. 12th, 1896, and the treatment by injection was commenced on Feb. 3rd with one injection of one-fifth of a grain of perchloride of mercury per week, and after three weeks this was increased to two injections per week. These gave him no inconvenience beyond some induration and transitory tenderness at the point of injection, which was made alternately in each buttock. Fig. 2 is from a photograph taken at the beginning of June after he had had twenty-seven injections. He has now had forty-five injections and the improvement has continued, and that not only in the face, as the photographs show, but in other parts of the body. The hands, which were swollen and puffy, have now much diminished in size, and the distended skin is thin and wrinkled. The erythematous condition of the body has also disappeared together with any thickening it produced, and there is only yellowish and brownish discolouration. The pains down the legs and in the feet have much diminished, though he still feels pain along the outer border of the foot at times, but less severely. Not only has his appearance improved, but he feels brighter, is in better spirits, and less apathetic. At no time has there been any sign of salivation; on one occasion he had an attack of diarrhœa, but though the injections were stopped for a week there was little ground for belief that the mercury produced the diarrhœa and there has been no recurrence of it. It should be stated that this patient has taken Chaulmoogra oil all through, as it was not considered justifiable to deprive him of any good effect it might have, and he has got up to forty minims a day. Some of the improvement may therefore be credited to it, but those who have had experience of it are aware that its action is very slow; such marked benefit in so short a time from it

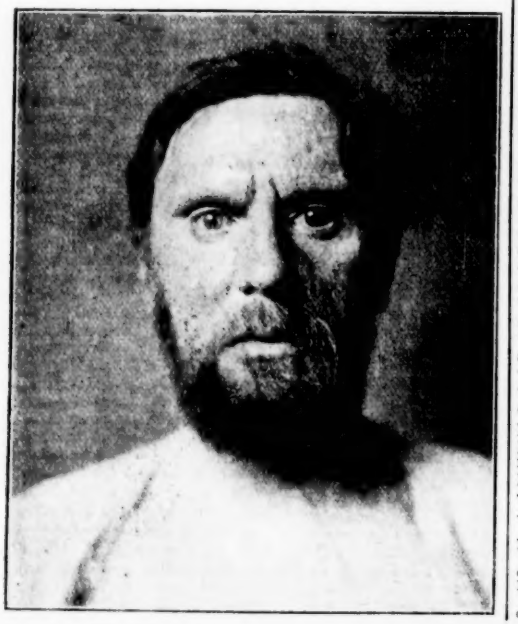
would be unprecedented, for there was striking improvement within a month of commencing the injections.

I do not, however, claim to have established anything more than a strong *primâ-facie* case for further trial of mercurial injections. The *modus operandi* is, I presume, that of a bactericide acting in the blood, and it is highly probable that other bactericides if introduced directly into the circulation would have a similar effect. I may add that the reproductions of the photographs are published with the full cognisance and assent of the patient.

Harley-street, W., Aug. 5th, 1896.

FIG. 1.

FIG. 2.



A CASE OF SUPRA-VAGINAL AMPUTATION OF THE CERVIX FOR CARCINOMA DURING THE FIFTH MONTH OF PREGNANCY,

WITH SOME REMARKS ON THE OPERATIVE TREATMENT OF CANCER OF THE UTERUS COMPLICATING PREGNANCY.[1]

BY CHARLES A. MORTON, F.R.C.S. ENG.,
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THE complication of cancer of the cervix with pregnancy is fortunately rare,[2] but the treatment of such a condition demands careful consideration, and I believe the record of the following case will be of interest.

A woman aged thirty-seven years was admitted into the Bristol General Hospital under my care on Dec. 2nd, 1895. A month before, her medical man in the country had diagnosed cancer of the cervix, and she was sent to me for its removal. The only symptom present was a white discharge. She had suckled her last baby up to three months before admission, and menstruation, which began during lactation, ceased two months earlier; but there was a slight loss of blood a week before admission. There was a large cauliflower-like growth from the anterior lip of the cervix, which did not seem to extend up the cervix to the body, and certainly had not involved the vaginal wall. In the position of the pregnant uterus was a swelling which reached nearly to the umbilicus, and I could on one occasion feel the head of the fœtus within it. Dr. Aust Lawrence, who kindly saw the patient in consultation with me, considered that delivery could not take place through the cancerous cervix, and that either the growth must be removed or the pregnant uterus removed through the abdomen, or Cæsarean section be performed later. We decided in favour of supra-vaginal amputation. On Dec. 18th I amputated the cervix with the galvanic écraseur so as to avoid the excessive hæmorrhage which has been experienced in operating with scissors during pregnancy. The bladder and the peritoneum of Douglas's pouch were both reflected, the bases of the broad ligaments on each side, with the uterine arteries, secured with ligatures passed by means of Bowreman Jessett's needle, and the cervix divided about the level of the internal os. The wire of the écraseur could not be watched as it cut through the cervix, as the growth in front was so large, and on its removal I found I had not got quite above the disease, and removed a further portion of the cervix.[3] The bleeding was very slight during the whole operation. After she had returned to bed I noticed more oozing than I cared to permit to continue, and on removal of the iodoform gauze which had been inserted I found one or two vessels bleeding in the cellular tissue between the stump of the cervix and the rectum, which had to be caught in forceps, and I applied a little diluted perchloride of iron solution to a constantly oozing area in the same position. Both before and after the operation the vagina was frequently injected with 1 in 40 carbolic lotion and after the operation iodoform suppositories were used. She had very little pain and no temperature after the operation. On the 22nd (the fourth day after operation), at 8 A.M., water began to escape from the vagina and labour pains came on an hour later, but at 1 P.M. there was no dilatation of the os, and the fœtus was not discharged until 1 P.M. the following day. It was decomposed. Dr. Firth, who was then house surgeon, removed the placenta, with anæsthesia, one and a half hours later. The morning after abortion she had a rigor and a temperature of 104°, but there was no further rise after this. The uterus was washed out with carbolic lotion and an iodoform bougie

[1] Reported at a meeting of the Bristol Medico-Chirurgical Society, March 11th, 1896.

[2] In 42,000 cases of pregnancy observed in three great obstetric clinics only 22 cases.—Journal of the American Medical Association, 1892, vol. xix., p. 14.

[3] The specimen shown at the Bristol Medico-Chirurgical Society was only the portion first removed—i.e., the growth attached to the cervix.

introduced twice daily. She got up a fortnight after the abortion and was discharged on Jan. 16th with the stump of the cervix healed. At the present time (July, 1896) she is in very good health and there is no sign of recurrence of the disease.

Was supra-vaginal amputation of the cervix the best treatment for this patient? The question is a very important one and was raised at the meeting of the Bristol Medico-Chirurgical Society at which I reported the case by Mr. Greig Smith, who said he considered that it would have been better surgery to have removed the pregnant uterus, as had been done by Sir Spencer Wells, a method of operation now recognised as the best for such cases. I must say I wholly disagree with the opinion that it would have been better in this case to have removed the pregnant uterus, and I do not believe that there is any consensus of opinion in favour of its removal in all cases in which it is the seat of cancerous growth. My reason for deciding on supra-vaginal amputation in this case rather than removal of the uterus through the abdomen was that supra-vaginal amputation is an eminently satisfactory operation with a very slight mortality and a period of non-recurrence over two years in the majority of cases, and that as this was a case of cauliflower-like growth, of the kind that does not tend to spread up the cervical canal to the body of the uterus and had not involved the vaginal wall, if the woman had not been pregnant it would have been just the one for supra-vaginal amputation, with its far smaller risk than hysterectomy. I do not propose to enter on the question of the relative advantages of complete hysterectomy and supra-vaginal amputation in the non-pregnant uterus in cases where we can get well above the growth by the latter, but I think most surgeons, in this country at any rate, will agree with me that supra-vaginal amputation, where possible, is to be preferred.[4] Now in what way does the existence of pregnancy render supra-vaginal amputation more dangerous? It increases the liability to hæmorrhage and makes it possible for septic absorption to occur from the cut surface of the cervix after the abortion which would probably follow the operation. But by removal with the galvanic écraseur and secure ligation of the portion of the broad ligaments containing the uterine arteries the increased risk of hæmorrhage was overcome and the burnt rather than cut surface was unfavourable to septic absorption from the uterine discharge flowing over it. On the other hand, we must look at the great risk of so serious an operation as removal of the whole uterus, pregnant to the fifth month. Sir Spencer Wells' case was done in 1881, at a time when supra-vaginal amputation was not established in this country, and reference was made to it by several members of the society at which Sir Spencer Wells reported his case as one just on its trial at the time. Moreover, Sir Spencer Wells' patient soon died from recurrence.[5] The question of complete removal of the uterus in my case was carefully considered before operation and we felt that it was not necessary to incur the risk of so severe an operation. It has been recommended by some obstetricians that abortion should first be produced in these cases and then the growth removed on account of the risk of hæmorrhage during pregnancy, but I feared that the attempt to extract a five months' fœtus might produce so much laceration of the growth that sloughing would set in and I should lose my patient from septicæmia. That there is good foundation for the fear of excessive hæmorrhage if the operation is performed during pregnancy is shown by the record of one of Dr. Lewers' cases, in which pregnancy had advanced to the fourth month. Dr. Lewers intended to remove the growth by supra-vaginal amputation, but found the parts so vascular that he simply cut off the protruding mass of growth with an écraseur and waited for involution to proceed until the eighteenth day. He then performed supra-vaginal amputation, but the hæmorrhage was so great he had to send the patient back to bed with nine Spencer Wells' forceps hanging on the stump. No doubt in non-pregnant cases the cervix may be quite safely cut through with scissors after ligation of the uterine arteries, but the record of Dr. Lewers' case induced me to take the extra precaution of using the galvanic écraseur. With scissors we can see better that we are cutting through healthy tissue. We must remember, however, that Dr. Byrne, the late President of the New York Obstetrical Society, has performed supra-vaginal amputation in 400 cases with the galvano-cautery without a death.[6]

There is another point of practical importance in connexion with this case. Should the uterus be cleared out at the time the cervix is removed after rapid dilatation of the os or should abortion be allowed to follow? I think myself that it would be unwise to prolong the operation by clearing out the fœtus and placenta; the hæmorrhage attendant on the removal of the latter might be considerable (as it was in this case when the placenta was removed later), and would probably seriously add to the risk of the operation. The only record I can find of a case of supra-vaginal amputation of the cervix during pregnancy in English or American literature during the last five years is Dr. Lewers' case mentioned in the table. Dr. Herman (many years ago) in a paper on the Treatment of Pregnancy complicated by Malignant Disease of the Genital Canal,[7] referred to 10 cases in which the cancerous portion of the cervix was removed during pregnancy, but not by supra-vaginal amputation. The following table, abridged from his own of 180 cases of cancer associated with pregnancy, will show the kind of operation performed and the result; and it will be noted with interest that, as Dr. Herman points out, in only 1 out of the 10 cases was the operation immediately followed by abortion, and 5 out of the 10 were delivered at full time. This is more than we might, I think, expect after the higher section at the level of the internal os in supra-vaginal amputation.

No. of case in Dr. Herman's Table.	Operation.	Result.
163.	Epitheliomatous growth, removed by galvanic écraseur at the fourth month.	Labour at full term.
155.	Cancer of the posterior lip; amputated in the second month.	Labour at full term.
158.	Vaginal portion amputated with knife and scissors, and actual cautery applied, though hæmorrhage described as moderate.	Aborted next day.
166.	Large cauliflower-like growth; removed at the fifth month.	Went nearly to full term.
160.	Cancer removed as completely as possible with scissors and sharp spoon in the fifth month.	Labour at full term.
162.	Amputation of vaginal portion in the fifth month.	Labour at full term.
161.	Tumour removed with wire écraseur at the sixth month.	Aborted eleventh day after.
159.	Cancer scooped out at the seventh month.	Aborted in a week.
157.	Cancerous mass removed with scissors and sharp spoon and cautery at the end of pregnancy.	Labour a few days after.

With the exception of Dr. Lewers' 2 cases and 4 cases of supra-vaginal amputation by Stratz,[8] in all the operations for cancer in pregnancy I can find recorded, either vaginal or abdominal hysterectomy, or a combination of both methods, were employed. Doubtless my references to cases recorded in continental literature may be defective, and there may be many cases of supra-vaginal amputation recorded which I have not discovered. It seems to me that no general rule can be adopted, and that many, perhaps most, cases will need complete hysterectomy, by one or other method, but that there will always remain a few like the one I now record, where the disease is limited to the cervix, in which supra-vaginal amputation may be advantageously performed. That this operation should be performed in such cases seems to be the opinion of many obstetricians;[9] Davis[10] and Vander Veer[11] in America have, however, advocated either vaginal or

[4] See discussion at the Royal Medical and Chirurgical Society, THE LANCET, Dec. 17th, 1892.

[5] Galabin: A Manual of Midwifery, 1891, p. 450.

[6] Brit. Med. Jour., 1892, vol. ii., p. 1334.

[7] Transactions of the Obstetrical Society, vol. xx.

[8] Zeitschrift für Geburtshülfe und Gynäkologie, xii., und Archiv für Gynäkologie, Band x., 405.

[9] Galabin: A Manual of Midwifery, p. 450, 1891. Playfair: Science and Art of Midwifery, 1893. Winchel: Text-book of Obstetrics. Lusk: Science and Art of Midwifery.

[10] American Text-book of Obstetrics, 1896.

[11] Journal of the American Medical Association, 1892, vol. xix., p. 15.

abdominal hysterectomy, according to the period of gestation. Davis writes: "Under the improved methods now followed in performing total extirpation the prognosis for the mother is no longer desperate, a fair chance for recovery from the operation and the prolongation of life being given her." I would venture to submit that by supra-vaginal amputation in such a case as my own the prognosis is by no means desperate, and, as in supra-vaginal amputation apart from pregnancy, the chances of immunity from early recurrence are distinctly good.

Cases of Pregnancy complicated by Cancer of the Uterus.

Operator.	Nature of case.	Operation.	Result.
Lewers: Diseases of Women, 1895, p. 240.	Aged thirty-nine years; four months pregnant; cauliflower-like outgrowth from the cervix.	Outgrowths removed by écraseur and uterus cleared out. Supra-vaginal amputation eighteen days later. Severe hæmorrhage at second operation.	Recovery from operation; died in a fainting fit some months after.
Lewers: Transactions of the Royal Medical and Chirurgical Society, vol. lxxvi., p. 101.	Aged forty years; three months pregnant; moderately large cauliflower growth chiefly affecting the posterior lip.	Supra-vaginal amputation with cautery; aborted two days after.	Quite well three and a half years after operation.
Siegfried Stocker of Lucerne: Centralblatt für Gynäkologie, No. 32.	Aged thirty-six years; six months pregnant; mass projecting into the vagina was breaking down.	Uterus containing fœtus (with exception of the cervix) removed through abdomen, and cervix removed per vaginam.	Recovery.
Bischoff.	Near end of pregnancy.	Freund's operation.	Died same day.
Schröder.	Near end of pregnancy.	Freund's operation.	Died same day.
Hofmeier.	Second month of pregnancy.	Vaginal hysterectomy.	Unknown.
Sir Spencer Wells: THE LANCET, Nov. 26th, 1881.	Sixth month of pregnancy.	Freund's method.	Recovered from operation, but soon died from recurrence.
Zweifel of Leipzig: Centralblatt für Gynäkologie, No. 12, 1889.	Sixth month of pregnancy.	Operation like Stocker's.	Unknown.
Löhlein: Centralblatt für Gynäkologie, March 7th, 1891.	Aged forty-three years; firm mass occupying posterior part of the cervix; came under observation a month before completion of term.	Vaginal hysterectomy a month after labour.	Recovery.
Greig Smith: THE LANCET, Jan. 1st, 1887.	Aged thirty four years; growth in the cervix the size of a tennis ball; pregnancy only suspected.	Intended to perform supra-vaginal amputation if the disease was not too extensive, but as it was did vaginal hysterectomy; the uterus was found to contain two fœtuses of the second month.	Recovery; case reported three months after operation.
Taylor of Japan: Medical Record, 1890, vol. i., p. 259.	Aged forty-one years; whole uterus seemed affected by malignant growth; pregnancy only suspected.	Vaginal hysterectomy; two months fœtus found; growth involved the cervix as far as the internal os; the bladder was torn in operation.	Recovery.
Vander Veer: Journal of the American Medical Association, vol. xix., p. 15, 1892.	Aged twenty-seven years; cauliflower growth from cervix; pregnancy not suspected, but enlargement of body supposed to be extension of disease to the fundus.	Vaginal hysterectomy; fœtus of two and a half months found.	Recovery.
Bedford Fenwick: Brit. Med. Jour., 1893, vol. ii., p. 1386.		Vaginal hysterectomy at the second month because cervix had been amputated for cancer before pregnancy began, and it was impossible to find any trace of the os through which to procure abortion, as was desired. There seems to have been no cancer present at the time of hysterectomy.	Recovery.

Clifton, Bristol.

ON ANTISEPSIS AND ELIMINATION IN PULMONARY PHTHISIS.[1]

BY F. R. WALTERS, M.D., M.R.C.P. LOND.,
PHYSICIAN TO THE NORTH LONDON CONSUMPTION HOSPITAL.

IT has frequently been remarked that although the parasitic origin of phthisis has now been firmly established for many years, and antiseptic methods based upon the discovery of the tubercle bacillus have been widely employed, these methods have not yet proved as successful as one might wish, and the mortality from phthisis still remains a formidable item in our vital statistics. There seem to me to be several good reasons for this want of success; and it will, I think, be profitable to refer to them seriatim, together with the best methods known to me for obtaining better results. In doing so, I shall have to mention much that is already familiar to you and shall be compelled by the exigencies of time to omit many illustrative cases which it would have been interesting to consider.

1. In the first place, antisepsis is only one of several factors essential to success. The tubercle bacillus (like the mildew in an ill-ventilated greenhouse) only attacks damaged tissues or organisms living in unhealthy conditions. To give antiseptic methods a chance we must also attend to hygienic factors. This very often involves a complete change in occupation and habits of life which is extremely difficult to effect. It is not my intention to go into details on this occasion respecting the prophylaxis and hygienic treatment of phthisis or to consider climatic treatment or that modification of it which can be effected without removal from this country. These are matters which are well known and would take too long to consider in detail. Dr. W. R. Thomas[2] some years ago said that most of his cases of phthisis resulted from one of three causes—namely, a dusty atmosphere, unresolved inflammatory consolidations, or inherited defect. There is much force in this remark; but we may, I think, with advantage change the third heading into "depressed vitality, congenital or acquired." It should be our constant aim in the treatment of phthisis to provide fresh air free from dust, to quickly cure all inflammations, and to improve the nutrition by all the means in our power. The means of improving nutrition are many and various, and I will only mention two which are apt to be lost sight of—general massage with rest and full diet, and cold sponging or other stimulant hydro-therapeutical methods. The extraordinary improvement which occurs in cases of nervous

[1] A paper read before the Chester Medical Society on June 16th, 1896.

[2] Brit. Med. Jour., 1884, vol. i., p. 352.

debility when subjected to the Weir-Mitchell treatment must have been seen. I have had some exceedingly striking cases, which, however, I will not now mention as the most remarkable were non-phthisical. But many phthisical patients in an early stage who are free from fever, but are too thin and deficient in appetite and vigour, would be benefited by such a course of treatment suitably modified; and although it would be out of the reach of the poor it is quite possible by good management to carry out such treatment properly for a very moderate sum. I must, however, utter a warning, if a warning be necessary, against attempting massage without rest and high feeding, whether in phthisical or other patients. I have heard of disastrous results from the neglect of this rule. There is an analogy between the Weir-Mitchell treatment and the modern methods in the treatment of phthisis. In both cases there is waste material to remove, energy to economise, and nutrition to improve; and in both cases supply must at least keep pace with expendture.

2. Another reason why antiseptic methods do not always succeed is because they are not applied early enough. Medical men are fully aware of the importance of early treatment, but the public do not sufficiently realise that the best time for systematic treatment is before there has been a decided failure in nutrition. We must be on the look-out for tubercle in all cases of anæmia or debility, amenorrhœa or dyspepsia, which do not promptly yield to treatment. I had a young man under observation for many months in whom an obstinate anæmia made me suspect the presence of tubercle. There was for a long time no cough or expectoration; but after six months I detected a patch of harsh breathing, with increased vocal resonance in one interscapular region, so that I at once put him on special treatment. The thermometer will, of course, often help in the diagnosis of doubtful cases.

3. In the next place, failure may arise from insufficient thoroughness and duration of treatment. Temporary improvement is very common under treatment in phthisis; but the precautions are relaxed, the treatment suspended, and a relapse takes place. Such disappointments are especially common in hospital practice, and I think all subjects of suspected phthisis, whether hospital or private patients, should be warned to continue attending for at least a twelvemonth.

4. Some relapses, however, are really due to re-infection. Evidence is steadily accumulating which shows that phthisis in the absence of special precautions attaches itself to houses,[3] so that to guard against re-infection proper disinfection and scrupulous cleanliness are essential. So far as adults are concerned, the main danger lies in the drying and pulverisation of tuberculous sputa, so that these should always be disinfected or destroyed and dust systematically removed from walls and floors. Washable walls are much to be desired in the rooms occupied by tuberculous patients. Dry dusting is objectionable and should be prohibited. It is in consequence of such precautions that the spread of phthisis is so seldom observed in consumption hospitals, and similar precautions generally enforced in some parts of Germany have led to a striking diminution in the mortality from tuberculous diseases. If a death from phthisis takes place thorough disinfection is essential. Gaseous disinfectants are not to be trusted. A solution of chlorinated lime is more reliable for walls than corrosive sublimate or carbolic acid, as mercurial preparations are apt to be reduced by organic matter, and carbolic acid unless concentrated is slow in action. Sputa should be destroyed by boiling or burning, Japanese paper handkerchiefs or suitable spitting flasks being preferably used.

5. Relapses in phthisis are also frequently caused by intercurrent attacks of other diseases such as pneumonia or influenza. A patient under my care was doing admirably and seemed to be nearly well, when he was obliged to work early and late for several weeks in an ill-ventilated office. Owing to faulty drains under repair the doors and windows were kept closed, and three or four devotees of the weed kept the office well filled with tobacco smoke. My patient got a smart attack of congestion at the base of the lung, with the sore-throat so common where drains are faulty; and the tuberculous process took such a hold that his recovery was seriously jeopardised. Eventually there was sufficient improvement to warrant his going to South Africa, whence I have lately received most satisfactory reports of him. The treatment of phthisis is largely that of inflammatory complications. All morbid secretions from mucous membranes may be regarded as so much culture fluid for the tubercle bacillus, so that it is a substantial gain when we can dry them up or expel them. Coghill has rightly objected to the frequent or habitual use in phthisis of opiates, which should be reserved for the treatment of useless, ineffectual cough, while antiseptic inhalations are far better for regular use. Too little attention has, I think, been paid to the action of the respiratory cilia, which are most important agents in getting rid of secretions from the bronchial tubes. Chloroform and other sedatives which check ciliary action should, I think, be used with great caution. In the later stages it is of importance to regularly adopt such positions as will drain the cavities, even at the risk of exciting cough. The clearing cough in the morning should be encouraged and every effort made to get rid of the accumulated mucus. When this has been done some sedative will be useful to soothe the mucous membrane and quiet the nerve centres and prevent vomiting. The use of expectorants should be regulated by similar principles. So far as they increase secretion they are likely to do mischief; but such an increase is often the only way of expelling more noxious matters. I am not in favour of continually employing expectorants in phthisis, but they are, I think, useful occasionally. Chills also tend to increase the secretion from the respiratory passages, but it is better as a rule to train the skin by douches and other means to accommodate itself to differences of temperature rather than to keep the patient in-doors. Even in febrile stages phthisical patients can stand a good deal of fresh air, provided they are clad in woollen garments and kept out of cold draughts. Foul air is more dangerous than cold air, and staying in-doors increases the tendency to catch cold. Generally speaking, the intercurrent pulmonary complications of phthisis call for treatment which shall limit the secretion and hasten its disintegration and expulsion; and for such purposes we are obliged to trust largely to remedies which are not primarily antiseptic.

6. As regards the tuberculous consolidations themselves there are two natural methods of cure—by fibrosis and calcification or by softening and expulsion. Where the first of these tendencies exists little need be done beyond paying attention to the nutrition and to hygienic matters. Antiseptics may be useful, but are probably not essential; and such other remedies as are used should be chosen for their tendency to promote calcification or improve the general nutrition. Lime salts, such as the phosphate or chloride, may be useful in promoting calcification, but I do not know of any exact evidence on this point. It has been stated that there is increased elimination of lime salts through the urine in phthisis. If this be correct an adequate supply of such salts in the food or otherwise is probably essential. Phosphate of of lime is said also to stimulate cell nutrition. The chloride of calcium was a favourite remedy with Begbie[4] in various scrofulous disorders. Parrish's food, which also contains calcium phosphate, is widely used in the same class of cases. Dr. Albert Robin[5] uses the glycero-phosphates wherever nitrogenous metabolism is defective or the nervous system is ill-nourished, whether from exaggerated loss or insufficient assimilation. The glycero-phosphate of lime should be useful in chronic quiescent phthisis, but I have no personal experience with it. Where, however, from the progress of the local disorder it is clear that softening will take place we should guard against the dangers of extension and systemic poisoning by the timely administration of antiseptics and antipyretics. In many cases we can also increase the chances of recovery by hastening the process of softening, just as in the intercurrent inflammations already alluded to. The remedies which may be used for this purpose, several of which are also antiseptics, are mercurials, iodine and iodoform, arsenic and hypophosphites, and tuberculin. Mercurials, although useful in the treatment of local and accessible tuberculous diseases, do not seem to me to be of much value in pulmonary phthisis, probably because their disintegrating action is too undiscriminating. The combination which I have tried is that of liquor hydrargyri perchloridi with perchloride of iron. Iodine and iodides are valuable in

[3] Ransome: Ibid., 1892, vol. ii., p. 172; also Medical Chronicle, October, 1892.

[4] Warburton Begbie's Works, New Sydenham Society, p. 307.

[5] Bulletins Généraux de Thérapeutique, 1895, vol. xviii., p. 385, and vol. xx., p. 433.

increasing the fluidity of the sputa and in breaking down damaged epithelium. They are, however, apt to cause catarrh in some patients. Veitch states that iodism can be prevented by the addition of morphine or atropine,[6] but I have not tried this combination in phthisis. Iodoform, which has been much used and strongly recommended by Dreschfeld and others,[7] is probably converted into iodine in the system. It is more slowly eliminated than the iodides and consequently is more continuous in its action. It may be administered in the shape of pill or subcutaneously. Iodol is still more slowly converted and excreted.[8] I am unaware of its having been given by the mouth in phthisis. I was rather disappointed with iodoform in my own practice, but am not sure that I increased the dose sufficiently. Arsenic and hypophosphites, although regarded as tonics in small doses, probably act in part as disintegrating remedies. They are said to diminish oxidation and to induce fatty degeneration, and as their main action is on epiblastic tissues they should be specially useful in the early catarrhal stage of phthisis, which is confirmed by clinical experience. I am inclined to think that calcium hypophosphite is preferable to the sodium salt in phthisis. Tuberculin has at the same time the most powerful and the most selective action of all the disintegrating remedies. It kills the cells which have been irretrievably damaged by the tubercle bacillus and excites inflammation round the dead mass. Owing to its use in unsuitable cases it has fallen into disrepute, but if judiciously used it may be of considerable value. It is seldom a safe remedy in out-patient practice, and should only be used in an early stage and where the patient is placed under good hygienic conditions and continually under observation. By the use of tuberculin we convert a chronic into a sub-acute process, so that the precautions necessary in the case of all disintegrating remedies are especially important where tuberculin is administered. One danger in the use of disintegrating remedies is that of hæmorrhage, but this is seldom formidable, and may, I think, be usually disregarded and dealt with on ordinary principles when it happens. Another, which is almost inseparable from their use, is the absorption of toxins, which cause fever and depression of strength, together with various other symptoms which are sufficiently familiar. And so far as the removal of necrosed tissue is effected by internal absorption there is danger of bacilli being carried off by wandering cells and retaining sufficient vitality to start fresh foci elsewhere. Some of Virchow's post-mortem examinations after the use of Koch's tuberculin have shown that this may take place, but Watson Cheyne's observations teach us that it is not a necessary consequence. Still, it will be wiser when we use any of these remedies to take all possible precautions against the above-mentioned dangers, and this we can do to some extent by the use of antiseptics and of remedies (such as antipyretics and anti-hydrotics) which counteract some of the effects of the toxins. If the disease be extensive no antiseptic can be depended upon to fight the battle unaided; but if a large part of the diseased tissue be expelled by other means there are several antiseptics which will give most valuable assistance in dealing with what is left. The use of such antiseptics should be begun, if possible, before the softening stage is reached, and continued after apparent recovery to prevent relapses. There is abundant evidence that the tubercle bacilli may remain quiescent for long periods in glands and some other parts of the body; and although we do not know how far this takes place in caseous masses in the lungs it is well to be on our guard. Such masses cannot be scraped and dressed like a diseased joint or lupus patch, but have to be slowly absorbed by the ordinary vascular channels if they have not been completely expectorated, which is exceptional. And so long as this process of absorption goes on, so long is there a danger of recrudescence to be guarded against. The most useful antiseptics for our purpose are the creasote group, iodine and iodoform, eucalyptus, and some other essential oils, quinine, the salicine group, and mercurials. Some others are useful for intestinal antisepsis, but have little effect on the lungs. Antiseptics for internal administration in lung disease should be fairly diffusible, and be naturally eliminated, at least in part, by the lungs: and it is noteworthy that most of the remedies I have just mentioned have these two properties. Quinine and the salicine group are, I think, most useful for occasional administration as antipyretics. It is a common practice to give quinine a few hours before the expected rise of temperature during the febrile periods of phthisis; and Coghill has recommended it to anticipate the reaction after tuberculin. It probably helps to prevent unduly low as well as unduly high temperatures, and by its restraining action on leucocytes will help to prevent excessive inflammatory reaction. Salicine and the salicylates are mainly of use in treating the fever of the septic stage. Several other antipyretics have been administered in phthisis, but owing to their depressing effects it is doubtful whether they do any good. According to E. F. Grün[9] acute bronchitis is due to a bacillus which is prevented from growing by acetanilide. Should this be confirmed it would be an indication for the administration of the drug during bronchitic complications in phthisis. Guaiacol and beechwood creasote are useful in restraining both the fever of consolidation and the septic fever in phthisis. Guaiacol may be painted on the skin of the chest or elsewhere (15 to 20 minims) and covered with oilskin. It may also be injected deep under the skin either pure or (as I have usually done) dissolved in a little sterilised sweet almond oil. Coghill[10] states that it has a very marked effect in improving the condition and lowering the temperature in acute phthisis. In the same class of cases McCall Anderson[11] has been successful (in 6 out of 8 cases) with quinine and digitalis. In acute or sub-acute one-sided attacks the method of strapping the chest advocated by Dr Tidey[12] of Florence would probably be useful. Although the healthy lung should be expanded as systematically as possible the inflamed part would be far better kept at rest. Bearing in mind the probable action of tuberculin the treatment of subacute or acute phthisis becomes of the greatest importance, and one or other of these methods would be worth trying after using tuberculin if the reaction were marked. In the treatment of more chronic cases I have had most experience with creasote and guaiacol. These drugs, in addition to their action as antipyretics, diminish secretion from pulmonary cavities and appear to have a marked inhibitory influence over the spread of tuberculosis. How this is effected is still a matter of doubt. Guttmann[13] found that 1-4000th part prevented the growth of bacterial cultures, and he and others have tried to do the same thing in the human body by giving large and increasing doses of the drug. If it were necessary to keep the body (or even its fluids) saturated to the same extent it would undoubtedly be necessary to give very large doses. But there is good evidence that quite small doses given for long periods of time are beneficial. Bouchard and Sommerbrodt obtained their earlier successes with small doses, which shows that either a small dose will sufficiently modify the tissues to render them an unfavourable soil for the growth of the bacilli or that the drug is concentrated on specially threatened parts; or perhaps, as Hudeod[14] supposes, the action is not so much on the bacillus or the soil as on the toxins resulting from the action of the bacillus. We may, I think, dismiss all idea of directly killing the bacillus in the body. The most that can be expected from antiseptics is that the bacillus should be rendered less active or less virulent. It is also possible that the constriction of bloodvessels by guaiacol may have something to do with the effect. Although the bacillus protects itself against the contact of blood as such it needs a plentiful supply of nutrient fluid which must be derived in the lungs from the bloodvessels. If these were constricted the effect would be greatest where endarteritis was present, so that a relative starvation of the bacillus might follow. It is noteworthy that, according to the late Dr. Bristowe, the most useful drugs in tuberculous meningitis are those which constrict bloodvessels. Ichthyol, which acts in this way, has been used by Scarpa[15] in tuberculosis with apparently good results. When creasote is used it is important to see that it is beechwood and not coal-tar or pinewood creasote. The substitution of coal-tar

[6] THE LANCET, June 13th, 1896.

[7] Shingleton Smith: Brit. Med. Jour., vol. ii. 1884, pp. 422, 906. Dreschfeld: Ibid., vol. ii. 1882, p. 169, and vol. i. 1883, p. 817. Ransome: Ibid., vol. i. 1884, p. 8. Semmola: THE LANCET, Aug. 28th, 1882, p. 332.

[8] See Wood's Therapeutics.

[9] THE LANCET, June 27th, 1891, p. 1424.

[10] Brit. Med. Jour., vol. i. 1896, p. 586.

[11] THE LANCET, March 24th and 31st, 1877, pp. 413 and 451.

[12] Brit. Med. Jour., vol. i. 1896, p. 721.

[13] Zeitschrift für Klinische Medicin, Band xxii., p. 488.

[14] Créosote et Tuberculose, Genève, 1893.

[15] Gazzetta degli Ospedali, 16 Mar., 1895.

creasote for that derived from beechwood appears to have been one reason why the remedy fell into disrepute until revived in the seventies by Bouchard and Gimbert.[16] Dr. Chaplin appears to have used inhalations of creasote in a specially constructed chamber at Victoria Park Hospital; but coal-tar creasote is stated to have been used.[17] Beechwood creasote contains from 60 to 70 per cent. of guaiacol, together with smaller quantities of cresols. Pinewood creasote contains far less guaiacol. Coal-tar creasote contains plenty of phenol, but little or no guaiacol, and is far more poisonous. The methods of administration are various; it will often be useful to combine several in the same case. As a rule I begin with the administration by the mouth. Most patients can take it readily in this way, which has the advantage that it disinfects the sputa which have been accidentally swallowed and diminishes the risk of intestinal complications. Habit and idiosyncrasy are both very potent in the taking of creasote. Beginning with small doses (from two to four minims three times a day) and gradually increasing, large quantities can usually be tolerated. A medical friend tells me that one of his patients—not a tuberculous one—took creasote by the teaspoonful without any ill-effects whatever. On the other hand, a case is on record of death from eighteen minims.[18] This must have been due to impurity of the drug or to idiosyncrasy. Whatever the explanation the danger can readily be avoided. The dose which can usefully be taken varies in different cases and can only be determined by observation of the effects of an increasing dose. To obtain good results in some cases large doses are probably required. Now Poggi's experiments with guaiacol (which are probably applicable to creasote) show that not more than from fifteen to twenty minims are absorbed per diem by the alimentary canal,[19] so that bigger doses are of no advantage when given by the mouth; and where more is required it must be administered by the skin. Creasote is rapidly absorbed and rapidly excreted, partly by the kidneys, partly by the lungs and other surfaces, so that frequent doses are indicated. If the kidneys are unsound the drug must be very cautiously administered. Undiluted creasote or guaiacol is somewhat burning and irritating to epithelium. I am, therefore, in the habit of giving it well diluted directly after a meal. In my experience it is not so well borne in the shape of pills or capsules. As a rule only small doses can be given in oleum morrhuæ, but from ten to thirty minims per diem can usually be reached without any drawback if combined with glycerine and spirit and stirred up in a tumblerful of milk. This has the additional advantage of increasing the quantity of easily digestible food taken. I usually begin with two or three minims three times a day and increase up to six or eight minims. I see no special advantage in rectal administration. Another method of administration is by the skin. For this an ointment may be made with lanoline and almond oil together with 5 per cent. creasote. Or the drug may be painted on pure or mixed with sweet almond oil and covered with gutta-percha tissue. I have too small an experience of these methods to be able to judge of their value.

The hypodermic method, with which I am more familiar, was the subject of a paper read by me at the annual meeting of the British Medical Association last year.[20] I have used 1 in 5 and 1 in 15 solutions of creasote or guaiacol in sterilised almond oil, injected either with a large-sized hypodermic syringe or with a special apparatus of French manufacture. If the doses are gradually increased enormous doses will be sometimes tolerated—e.g., nearly eight ounces of a 1 in 15 solution. With these large doses it is especially important to inject very slowly and in cold weather to warm the solution. I have known faintness to occur after a very small dose, probably because it was injected too fast or too near the skin. The bulk to be injected is an important consideration, as a large injection will take a very long time to introduce. But, on the other hand, it is an advantage to introduce large quantities of oil into the body in phthisis in such a way as will not upset the stomach. Where objections are raised to the hypodermic method and sufficient doses cannot be taken by the mouth other allied preparations have to be given instead. Guaiacol is in my experience rather better borne than creasote. The carbonates of these drugs, which as a rule pass through the stomach and are split up in the bowel, with liberation of creasote or guaiacol, are a useful alternative. Where fermentation is present in the stomach the liberation will be effected earlier, with good results on the gastric disturbance. Benzosol is also similarly acted upon in the bowel. I have no experience with it, but it has been favourably reported upon. Where large doses are required, however, none of these substitutes, if given by the mouth, will replace the hypodermic administration of guaiacol, as there is a limit to the amount absorbed by the alimentary canal. Difficulties in the administration of guaiacol by the mouth or subcutaneously may usually be overcome by very gradually increasing the dose. Where there is real intolerance of the drug some other, such as iodoform or eucalyptol, will have to be tried. The chief symptoms of intolerance are faintness and depression of temperature and strength, with sometimes mental symptoms. One of the Continental observers[21] likens it to the collapse of pernicious malarial fever. I have not so far met with absolute intolerance of the drug, although temporary intolerance is more common. As a rule it is well borne and diminishes cough and expectoration, dries up moist sounds, increases the appetite, and keeps down the temperature.

A girl aged twenty years, who looked about fifteen years old, consulted me in June, 1895. Her father had died from phthisis, and she herself had been steadily losing flesh and strength for four months. She was very anæmic, with a hectic flush, feverish at nights, miserably thin, and ill-developed about the chest. There was well-marked consolidation of the left upper lobe and the apex of the left lower lobe, with imperfect entry of air and squeaking inspirations over the affected areas. She was put on to creasote and cod-liver oil, iodine painting, and plenty of fresh air. In October she looked fat and healthy, had very little cough, slept well, ate well, and felt well. The squeaky sounds were heard over a smaller area, and there was no evidence of softening excepting at the apex of left lower lobe. In January of this year there was no active mischief excepting a patch of crepitations near the left anterior axillary fold, and no evidence of cavities anywhere. She is still attending, and bids fair to make a complete recovery.

In this case creasote was for a time only given by the mouth, but I very often at the same time order inhalations or instillations. These will not, I believe, replace the administration by the mouth, but are rather intended to act upon the respiratory surface and its secretions, while very little is absorbed into the system, and the deeper tissues are little if at all affected. Of the three chief methods of discontinuous inhalation, instillation, and inhalation in special chambers, the second is in practice the most convenient, although the others have their advantages. Inhaling respirators should be capable of thorough sterilisation and their textile parts should be regularly destroyed and replaced. A simple and efficient one may be readily made from a piece of copper wire, two pieces of linen, and two tapes. For men with moustaches the wire may be dispensed with. Its object is to prevent contact of the wetted surface with the sensitive skin of the lips. If sufficiently saturated there is usually no need of an oro-nasal respirator, which is necessarily more clumsy and conspicuous. Inhaling respirators should be worn day and night. Their object is to enable the patient to constantly breathe a medicated atmosphere without being confined to the house. Where this cannot be done the inhaling chamber will have to be tried, with special schemes for ventilation, such as have been introduced into one or two hospitals for phthisis. This, however, is too large a subject to enter into now. For discontinuous inhalation a wide-mouthed bottle with two glass tubes and a rubber cork, fitted with rubber a tube and mount, will answer very well. Such a bottle may be half-filled with antiseptic and stood in hot water every time it is used. By this means the air above the antiseptic is sufficiently impregnated for practical purposes. Creasote or guaiacol may be used pure in these ways or dissolved in rectified spirits. The latter is best where instillations are used. In addition to guaiacol or creasote, phenol and menthol may be usefully employed for instillations. Eucalyptol and various essential oils also lend themselves well to this method, and where softening processes are tardy iodine may be added. Medicated steam inhalations are usually best avoided in phthisis.

To sum up, it appears to me that the antiseptic method

[16] Bulletins de Thérapie, tome xcili., p. 289.
[17] Harris and Beale: Treatment of Pulmonary Consumption, p. 342.
[18] Zawadski: Therap. Monatsheft, 1894, No. 18.
[19] Riforma Medica, Aug. 10th, 1892.
[20] Brit. Med. Jour., vol. ii. 1895, p. 1488.
[21] Burlureaux: La Pratique de l'Antisepsie, Paris, 1892, p. 190.

is of real utility in phthisis, but cannot be alone depended upon. Hygienic treatment is of the first importance. Nutrition must be improved by administration of cod-liver oil and other familiar remedies. Symptomatic treatment directed against profuse night-sweats, diarrhœa, and other troublesome symptoms is also of great importance. Inflammatory complications must be attended to in ways calculated to diminish excretion or to bring about the speedy expulsion of peccant matter. Early quiescent cases are best treated by expectancy, but where softening is tardy it may with advantage be hastened by the administration of resolvent remedies—preferably, as a rule, those which are also antiseptics; and during the whole time of treatment antiseptics should be regularly administered in doses gradually increasing up to a maximum which varies with each case and continued for some time after the appearance of dry sounds in the chest. Given continuously from an early stage and for long periods in substantial doses antiseptics will decide the battle in favour of the patient, and in a large proportion of cases bring about a relative or even an absolute cure. But a half-hearted administration and the neglect of other well-ascertained methods of treatment will throw doubts on the value of the remedy employed and only lead to failure. The choice of the antiseptic and the method of administration will depend on idosyncrasy and the peculiarities of the particular case, but in most cases it will be advisable to give it by inhalation and also either by the mouth or under the skin. If I have dwelt most on guaiacol and creasote it is because hitherto the best results have apparently been obtained from these and because I am most familiar with them, but I do not deny that other antiseptics are sometimes of the greatest utility.

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DEFECTIVE METABOLISM IN ITS RELATION TO GOUT.[1]

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THE normal metabolism of the human body, both as regards tissue change and the elaboration of the alimentary substances introduced from without to maintain the tissues, does not produce any disturbing effects on the organism of a healthy individual. By a perfect metabolism we mean a perfect functioning of all the various physiological processes that take place in the body. For convenience of classification we group these processes under anatomical heads called systems, all interdependent on each other in maintaining the health of the individual, so that derangement in any one of them is followed by imperfect functioning of the others. In this paper I am only concerned with those systems that seem to me to be mainly responsible for the production of a vicious change in this metabolism, leading to what we understand as uric-acid-æmia or gout. According to the most recent views gout is due to over-production of uric acid which is driven from the blood in consequence of that fluid becoming sub-alkaline and consequently incapable of holding it in solution. It then precipitates itself where the blood-stream is slowest and weakest, carrying with it some of the soda salts of the blood and robbing the tissues around it in its new resting-place of all their alkaline salts. It may either return again to the blood when an increased alkalinity of that fluid tempts it back, or it may remain in its resting-place if a sub-alkaline condition of the blood continues. All recent writers on the subject are nearly agreed as to this being the condition of affairs in gout, but they are not agreed as to why uric acid in excess should be present in the blood, and it is on this aspect of the question that I venture to offer some remarks.

According to those who regard the question from a merely chemical point of view the excess of uric acid is due to the food ingested being too highly nitrogenous and to the blood being low in alkalinity, so that it becomes an insufficient solvent for the uric acid which is formed out of the compounds of urea at or in the renal barrier; the kidneys accordingly fail to eliminate it, and it is carried back again into the circulation by the renal veins. Others explain it by the individual possessing an hereditary tendency to form uric acid in excess and the kidneys failing in elimination it gradually accumulates in the blood. The rational treatment of gout from a purely chemical point of view consists in giving alkalies, or alkaline salts, that render the blood more alkaline and dissolve uric acid, so that it is eliminated by the kidneys and appears in increased quantity in the urine. But after a little time the gouty symptoms return, and then the thoughtful mind inquires what causes other than mere chemical ones will explain this vicious recurrence. Nearly every writer on the subject since Garrod discovered uric acid in the blood of the gouty has formulated theories to account for its presence and its over-production. Imperfect oxidation of urates, put forward by Murchison and advocated by Garrod and later writers, certainly seemed to take hold of the professional mind and has many strong advocates at this day. Lately Harbaczewski, from chemical investigations, has brought forward the view that uric acid is the metabolic product of nuclein derived from leucocytes. Its increase in the blood and urine in leucocythæmia and in pernicious as well as in other forms of anæmia lends strong support to his opinions. All cases of gout are, however, not accompanied by symptoms of either leukæmia or pernicious anæmia, though a transient anæmia is very frequently associated with the first symptoms of an excess of uric acid in the blood, and one form of gout—that known as atonic gout, occurring in the flabby and lymphatic—is characterised by anæmia as a marked symptom. Harbaczewski's theory as to the source from which this excess of uric acid is derived applies to only one of the great physiological systems—the circulatory one; but, in my opinion, defective metabolism in others exercises from time to time a preponderating influence in this excess, and it is with a view of calling attention to this that my remarks principally apply. The inquiry will necessitate a review of all the various physiological processes of the body, defective metabolism in which adds to the blood the various compounds of urea in such quantities that the excretory organs, especially the kidneys, cannot deal with it, and form uric acid from the soluble urea compounds. Lithæmia is but the first evidence of lessened metabolic activity, and as age increases this lessened activity increases with it until one of the most simple metabolic processes in the body—the conversion of proteids and waste products into urea—becomes a complicated one, leading to a gradual auto-intoxication, having lithæmia at one end in its primary stage and uric acid at the other in its final one. I am firmly convinced that this metabolic defect is not confined to one function or one system, and I shall take up the various systems in the order of their importance.

The Nervous System.

The influence of the nervous system in the production of gout has been invoked by every writer on the subject since the time of Sydenham. Sir Dyce Duckworth regards the disease as a neurosis which descends as an hereditary legacy from progenitors. Given the same conditions in two individuals disposed to form uric acid in excess, the one with a strongly inherited neurotic tendency will develop gout and the other will not. This instability of the nervous system is not confined to those who inherit the gouty tendency, for those who acquire it by dietetic over-indulgence possess a nervous system that is, to use a popular expression, "easily upset"; they are of an anxious and sensitive disposition, choleric, and irritable, with a tendency to perspire and become flushed from slight causes as well as to other symptoms indicative of their vaso-motor equilibrium being easily deranged. In fact, the gouty individual possesses a vulnerable nervous system which betrays its weakness in the higher centres as well as the vaso-motor and trophic ones; and this altered metabolism on the part of the nervous system produces an increase in the blood of morbid material out of which uric acid is formed. Gouty attacks are well known to be excited by mental conditions affecting the predisposed, such as excessive brain work, anxiety, and loss of sleep.

The Digestive System.

In the acquired form of gout the digestive system plays the *rôle* of chief factor and, according to Dr. Haig, the only one in the production of uric-acid-æmia. We have to thank

[1] A paper read before the Medical Section of the Royal Academy of Medicine in Ireland on March 20th, 1896.

this observer for the sidelights he has thrown on the pathology of uric acid, for the patient labour he has bestowed in experiments on himself to show the dietetic causes which produce an excess of it in the blood, and for the ingenious theories he has brought forward to explain its behaviour and its various effects, both in the blood and out of it. He has established the important fact that uric acid exists in the blood in a definite ratio to urea, which in health is about 1 to 35, and that any increase of it above this proportion constitutes a condition of uric-acid-æmia, its future behaviour as to elimination or increase being altogether regulated by the alkaline or sub-alkaline reaction of the blood and by additions from the dietetic side. He has, in fact, added to and confirmed the valuable investigations into the chemistry of uric acid made by Sir A. Garrod, Sir William Roberts, and Professor Latham. Whilst I fully agree with him that the chief causes for the excess of uric acid come from the digestive side I cannot agree with his views that derangements in the various parts of the body (the digestive tract included) are only the results of the presence of uric acid and are not the cause of its production. From my point of view embarrassment of function in any part of the digestive tract, arising either from dietetic excesses in the first instance, or from gradual lessening of functional activity as age advances, or from changes in the normal secretion of the glands that take part in it—the results of disease or derangement—is the cause of this defective metabolism which leads ultimately to the over production of uric acid. Dietetic excesses may be committed with impunity by the young and also by the healthy adult as long as the activity of healthy metabolism is unchecked by derangement or disease, but if catarrh of the stomach induces fermentation in the gastric contents and the formation of fatty acids then the first evidences of a defective metabolism in nitrogenous compounds commence and uric acid begins to manifest its presence. If alcoholic or dietetic excesses lead to the stomach catarrh becoming permanent, or the liver functions becoming deranged, there is no longer a healthy rebound in the metabolism, the waste products accumulate, uric-acid-æmia is established, and a trivial accident or lowered nervous influence, the result of some illness, may determine precipitation in the joints. The liver plays a most important part in the metabolism of nitrogenous compounds, and we must all admit that its derangement is followed by a lessening of this metabolism. The literature of the subject has established these facts; but I may again allude to the observations of Murchison in his Croonian Lectures on Functional Derangements of the Liver, where he points out that lithiasis is the result of a faulty metabolism of that organ due to functional derangement; that this symptom occurring in children generally indicates a transmitted tendency to imperfect function on the part of the liver; and that the subjects of it are generally the children of gouty parents. I may also allude to the chemical investigations of Professor Latham relative to defective metabolism on the part of the liver, and to Sir Dyce Duckworth's opinion that "the liver is the organ in which in health uric acid is chiefly formed, and it is probably to derangement of function in this gland that we must look for over-production of this substance." Another portion of the digestive system which contributes a very considerable element in this defective metabolism is the intestine, and the researches of Bouchard in his work "Auto-intoxication" have abundantly proved that many toxins may be absorbed from it.

The Circulatory System.

The system which ranks next in importance after the digestive one in the causation of this imperfect metabolism is the circulatory system, and if Harbaczewski's conclusions are correct it should prove the most influential of all in the undue production of uric acid. According to this observer uric acid is the metabolic product of nuclein derived from leucocytes; he contends that gout is a leucolysis, a perverted metabolism in blood formation, and he reasons from the well-known clinical fact that this acid is present in excess in the blood and urine of both leukæmia and pernicious anæmia. But there are other portions of the circulatory system which afford evidences of this metabolic defect besides the blood. We find clinical evidences of it through the entire circulatory channels from the heart to the capillaries. Pathologically there may be found no change in the cardiac muscle, but clinically we recognise that there is some defect, either neuropathic or nutritive, affecting its muscular tone. The arteries, and especially the veins and capillaries, seem to share this, their regulating vaso-motor mechanism becomes easily disturbed, and their trophic functions suffer. According to Dr. Haig the vascular changes are due to the high arterial tension and the contraction of the capillaries resulting from the presence of uric acid in the circulating blood, and also to its irritating and poisonous effects on the coats of the vessels and on their vaso motor nervous supply. I fully agree with him that in pronounced uric-acid-æmia the sphygmograph indicates this high arterial tension, but this is quite consistent with a lowered metabolism in the circulatory system generally.

The Lymphatic System.

A lessened metabolism in the lymph channels and especially in the lymph spaces is intimately associated with this lessened metabolic activity in the circulatory system. The lymph corpuscles supply abundance of nuclein, which, according to Harbaczewski, is one of the chief sources of uric acid, and the plasma is found to be rich in leucine and xanthin. Lauder Brunton has pointed out that free movement of the lymph in the lymph channels is essential to oxidation and metabolism, and that massage and muscular movement exercise an important influence over it from the pumping action produced in the lymph spaces by both forms of exercise. Muscular movements and respiration are almost the only means by which the circulation is carried on in this system, as it has no motor mechanism if we except the *vis a tergo* of the heart and arteries; defective metabolism must, therefore, result if these latter are in default and muscular exercise is not taken. From the physiological side this is an argument in proof of the fact that a sedentary life and deficient exercise conduce to uric-acid-æmia and gout.

The Respiratory System.

The chief function of the respiratory system is to supply oxygen to the blood which in its turn supplies it to the tissues, so aiding in metabolism and in the combustion of waste products contributing to animal heat; at the same time carbon dioxide and water are given off. If from any cause a defect arises in this system the process of oxidation is interfered with, carbon dioxide is retained, and waste products accumulate in the blood and tissues generally. Those who live an in-door life or inhale vitiated air are more prone to form uric acid than those who live out of doors or in pure air, for the former receive less oxygen into their blood and in addition inhale more carbon dioxide (a great portion of which is retained), whilst with the latter oxidation is more perfect and there is no uric-acid-æmia, though they may have the same causes either dietetically or by hereditary tendency for its production. Again there is in some individuals a tendency to greater sensitiveness of the respiratory tract than in others; they catch colds easily, are affected by changes of temperature, are prone to laryngeal and bronchial catarrh or to asthma and emphysema, and these are just the individuals who ultimately become gouty.

The Muscular System.

The muscles contribute to the blood a large amount of waste products, both during their healthy metabolism and more especially when this is defective, the products of muscle waste including kreatin, kreatinin, xanthin, hypoxanthin and uric acid. During exertion the muscle becomes acid, many acids being developed in it, such as paralactic, lactic, and phosphoric acids, and after violent muscular exercise many of these are retained in the blood, thereby contributing to raise its acidity and lessen its solvent action on uric acid. This latter acid was found to be increased in the blood by Handfield-Jones in the person of an Alpine climber on whom he made experiments after a severe day's mountaineering; but it was found to be afterwards slowly eliminated during the subsequent rest. In ordering exercise for the gouty it should be recollected that moderate exercise increases metabolism, but violent exercise diminishes it.

The selection of the joints by uric acid, under certain conditions of the blood, seems to be due to lessened nutritive changes in them and is not a mere coincidence. Here also it seems to me that a lessened nutritive metabolism or an atrophic condition renders them vulnerable. In this process the conditions of their trophic nervous supply must play an important part. The facts that have been accumulating since Charcot first called attention to the disease which bears his name and to the intimate relation he proved to exist between the joint lesions and the spinal cord through

the influence of its trophic nerves go to show that there is a defect in their nutritive metabolism in such lesions. Moreover, an accident to a joint will produce gouty pains in it afterwards by interfering with the nutritive metabolism of its delicate structure, and it is often the first indication to us and to the patient that he is gouty—a fact which neither the patient nor the physician previously suspected.

The inferences to be drawn from this review of the subject are that the gouty individual is a susceptible individual whose general metabolism is easily upset and that this vulnerability may arise from a disturbing influence in any of the great physiological systems I have enumerated. Clearing the blood and system of uric acid by alkalics or salicylates leaves the principal part of our work undone, namely the use of suitable remedies to correct the faulty metabolism in whatever system it first arises. The problem is complex, and chemistry alone will not solve it; whatever additional knowledge we are likely to gain will probably come from workers in the field of biological investigation.

Dublin.

SOME STATISTICAL OBSERVATIONS ON CARCINOMA OF THE FEMALE BREAST.

BY T. RUDOLPH SMITH, F.R.C.S. ENG.

ATTENTION has been recently drawn by Mr. Watson Cheyne to the better prospects of cure that follow the modern very extensive operation for the removal of the disease in carcinoma of the breast. The statistics given to support the procedure are very encouraging, though sufficient time has not yet elapsed for the immunity of many of the cases from return of the disease to be established beyond any doubt. For the purposes of comparison a percentage arrangement of cases into "cures" and "failures to cure" is very valuable; but in order to make reliable deductions as to the relative value of different operations or of an arbitrary time of immunity after which a cure is considered to be established, more detail is required. The careful record of recent cases amply supplies such detail in its most valuable form, but the older statistics with which to compare such a record to a large extent lack this essential information.

With this idea I have with my father Mr. Thomas Smith's permission been through his case-books of private practice. The total number of cases thus obtained is forty-one, and the collection has been made under the following conditions: (1) that the tumour in each case has been examined microscopically and found to be carcinoma; and (2) that the case is complete as far as possible up to the time of death or else over a period of many years. Thus many cases have been excluded, more especially the recent ones, except those in which the patient has died from the disease. In consequence, though the total number is not large, the statistics are more reliable. It is urged by some authorities that patients who fail to report themselves are generally cases of recurrence. This may perhaps be true of hospital patients, but judging from the replies to letters I have written for information about old patients I do not think this pertains to any great extent to the better classes.

Though cases of atrophic carcinoma are usually included in statistics with the others I have here placed them in a separate list. Because, though microscopically, a hard and fast line cannot always be drawn between a scirrhus and atrophic carcinoma, yet clinically the longer duration of atrophic carcinomata tends to mislead by unduly raising the average of life when included among other cases of carcinoma. Further, with a view to comparing the results of different operations the cases are divided into: (1) those where the breast only and (2) those where the breast and glands were removed at the primary operation.

The general plan of all the operations in these cases was to remove only the breast by the two ordinary elliptical incisions, unless the glands could be felt to be enlarged; in the latter case to remove such glands as appeared to be diseased. In no case was a clean sweep made of the axillary fascia fat and lymphatics.

In the latter part of this paper I have also discussed the application of a three years' limit as borne out by these cases.

Of these twenty-five cases in Table A. nineteen, or 76 per cent., have died from the disease or are alive with the disease in progress; five (Nos. 18, 19, 20, 21, and 22) are alive and free from return of disease after periods varying from five to seventeen years; and one (No. 17) died six years after the operation without any indications of the return of the disease. The general result in these twenty-five cases may be summed up as 76 per cent. failures and 24 per cent. cures.

In twenty cases there was local recurrence. Three (Nos. 3, 5, and 20) recurred within a year, all in the axillary glands. Ten (Nos. 1, 2, 6, 7, 8, 10, 12, 13, 15, and 19) recurred within two years; of these eight recurred in the scar, one in the axillary glands, and one in the other breast—this latter should perhaps be regarded as an independent growth. One (No. 11) recurred in three and a-half years in the scar; one (No. 24) in four and a-half years in the axillary glands; two (Nos. 16 and 18) in five years in the scar and glands; one (No. 23) in six years in the scar; and two (Nos. 14 and 25) in nine years in the scar—that is, 15 per cent. had recurrences within a year, 50 per cent. had recurrences between one and two years, and 35 per cent. had recurrences after three years.

It is interesting to note that in the three cases which recurred within a year the axillary glands alone were affected. It is, therefore, quite fair, I think, to conclude that these glands were beginning to be involved at the time of the first operation, but were not large enough to be felt through the skin. This would support the view that where there is any doubt as to glands being enlarged the axilla should be opened and explored.

Of the remaining cases of recurrence (seventeen in number) fourteen had the scar alone affected at first, and in these presumably a freer removal of skin and parts around the breast would have given better results.

Date of death and duration of disease.—Fifteen of the cases have died from the disease. Of these, one (No. 5) died 1 year and 3 months after the operation; one (No. 15) died 1 year and 10 months after the operation; two (Nos. 4 and 9) died 2 years and 5 months after the operation; one (No. 3) died 3 years and four months after the operation; one (No. 12) died 3 years and 10 months after the operation; one (No. 1) died 4 years after the operation; one (No. 6) died 5 years after the operation; two (Nos. 2 and 8) died 6 years after the operation; one (No. 7) died 6 years and 4 months after the operation; one (No. 16) died 6 years and 10 months after the operation; one (No. 10) died 7 years after the operation; one (No. 13) died 8 years and 4 months after the operation; and one (No. 11) died 15 years and 6 months after the operation—that is, an average duration of life for slightly over five years after the first operation.

The duration of life in unoperated cases is variously given from two to four years. In the last edition of Sir John Erichsen's "System of Surgery," three years from the commencement of the disease is given as the most probably correct estimate. So that, without considering the time the disease had existed in these cases before operation on account of the difficulty of obtaining reliable data we have an average prolongation of life for two years as following this operation, though by no means a complete one according to modern views.

Of the four cases alive but with the disease still in progress, No. 14 has lived 9 years; No. 23, 11 years; No. 24, 4 years and 6 months at least; and No. 25, 13 years since the first operation.

Of the ten cases in Table B. eight have died from the disease; one (No. 10) is alive with the disease in an advanced stage, and one (No. 3) is alive and in good health, but the arm is œdematous, and presumably the disease is still in progress. Six of the ten had local recurrences—three within six months of the operation—No. 1 in the axillary glands; No. 3 in the scar; and No. 10 in the scar and glands; two (Nos. 5 and 6) between six months and a year after the operation, and both in the axillary glands; and one (No. 4) in three and a half years in the axillary glands. This gives 83⅓ per cent. recurrences within the first year. The rapid recurrences in Nos. 1, 5, 6, and 10 may reasonably be attributed to affected glands having been overlooked at

TABLE A.—CASES OF CARCINOMA OF THE BREAST (OTHER THAN ATROPHIC) IN WHICH AT THE TIME OF THE FIRST OPERATION NO ENLARGED GLANDS COULD BE FELT, AND THEREFORE THE BREAST ONLY WAS REMOVED.

No.	Age.	Duration before operation.	Date of operation.	Glandular affection.	Local recurrences and subsequent operations.	Date of death.	Cause of death or present condition if alive.
1	67	3 months.	September, 1885.	None.	October, 1886: Recurrence in scar; removed. April, 1887: Recurrence in scar; removed. June, 1888: Recurrence in scar and gland in axilla; removed.	September, 1889.	Secondary affection of other organs.
2	40	Uncertain.	January, 1881.	None.	September, 1882: Recurrence in outer part of scar; removed.	December, 1886.	Secondary affection of other organs.
3	75	9 months.	August, 1880.	None.	March, 1881: Axillary gland; removed.	December, 1883.	Paralysed in lower extremities for several months before death, and with ulceration of the breast scar.
4	46	6 months.	September, 1880.	None.	None.	February, 1883.	General dissemination of disease ("her other breast was removed in 1877 by Sir James Paget for cancer").
5	56	5 months.	September, 1880.	None.	May, 1881: Axillary glands; removed.	December, 1881.	Pleurisy with secondary disease of lung.
6	50	4 years; 1 year (both breasts).	January, 1883.	None.	April, 1884: Recurrence in scars on both sides.	February, 1888.	Both breasts were removed at the same time, but growth in one had been noticed three years before that in the other.
7	45 (?)	Uncertain.	June, 1886.	None.	1888: Recurrence in scar; removed. 1890: Recurrence in scar; no operation. 1891: Arm œdematous, axillary glands involved.	October, 1892.	Secondary growth in liver.
8	44	Uncertain.	September, 1889.	None.	March, 1891: Other breast (left) and axillary glands; removed. September, 1891: Recurrence in left scar; removed. October, 1891: Axillary glands (left); removed. March, 1892: Recurrences in scar and axilla (left side); removed. June, 1892: Recurrences in scar and axilla (left side); removed.	1895.	Acute pleurisy and secondary affection of lung.
9	60	9 months.	November, 1880.	None.	None.	April, 1883.	Pleurisy and secondary affection of lung.
10	41	2 years.	February, 1886.	None.	July, 1887: Recurrence in scar; removed. April, 1892: Recurrence in scar; removed; cervical glands; removed.	February, 1893.	Portion of primary growth examined microscopically showed structure of adenoma, but the secondary growths were typical scirrhous carcinoma.
11	63	3 years.	February, 1881.	None.	October, 1884: Recurrence in scar; removed. July, 1886: Recurrence in scar; removed. 1891: Other breast affected and secondary periosteal growth on rib on left side; no operation.	September, 1896.	Secondary affection of liver.
12	62	5 months.	October, 1880.	None.	August, 1882: Axillary glands; removed.	August, 1884.	General dissemination of disease.
13	45	Uncertain.	June, 1884.	None.	1886: Recurrence in scar; removed. 1888: Recurrence in scar; removed. 1890: Recurrence in scar; removed.	October, 1892.	——
14	48 (?)	Uncertain.	July, 1884.	None.	October, 1893: Recurrence in scar.	—	Not heard of since October, 1893.
15	50 (?)	Uncertain.	July, 1887.	None.	December, 1888: Recurrence in scar; removed.	May, 1889.	General dissemination.
16	45 (?)	Uncertain.	April, 1886.	None.	April, 1891: Recurrence; exact situation not known.	February, 1893.	Dissemination.
17	65	14 days.	April, 1883.	None.	None.	1889.	No indications of return of disease locally or generally. Died from old age.
18	65	5 months.	April, 1883.	None.	1888: Recurrence in scar; removed. 1891: Recurrence in scar; removed.	—	February, 1893: Alive and in good health; no evidence of any further return of disease.
19	55	3 months.	November, 1887.	None.	October, 1889: Recurrence in scar; removed.	—	May, 1896: Alive and in good health; no evidence of further return of disease.
20	44	2 years.	June, 1882.	None.	February, 1883: Axillary gland; removed.	—	February, 1896: Alive and in good health; no evidence of further return of disease.
21	50	3 years.	January, 1883.	None.	None.	—	February, 1896: Alive and in good health; no evidence of return of disease.
22	45	Uncertain.	May, 1877.	None.	None.	—	July, 1894: When last heard of alive and in good health; no evidence of return of disease.
23	67	1 year.	1885.	None.	1891: Recurrence in scar; removed. 1894: Recurrence in scar; removed.	—	February, 1896: Upper part of sternum prominent; arm œdematous; mass of supra-clavicular glands.
24	58	3 years and 3 months.	February, 1891.	None.	July, 1895: Axillary glands; removed.	—	Not seen since; considered as a case where disease still in progress.
25	38	5 months.	October, 1882.	None.	February, 1891: Recurrence in scar; removed. December, 1891: Recurrence in scar; removed. January, 1893: Other breast affected (left); removed. November, 1893: Axillary glands (left); removed. January, 1894: Axillary glands (left) and recurrence in scar; removed. June, 1894: Recurrence in scar (left); removed. October, 1894: Recurrence in scar (left); removed. July, 1895: Axillary glands (left); removed.	—	In this case the right breast was first removed, and no recurrence occurred for nearly eight years, when the scar was affected and two small operations for its removal were performed. Since then (1893) the left breast became affected, and the subsequent recurrences have all been on the left side.

TABLE B.—CASES WHERE THE BREAST AND GLANDS WERE REMOVED AT THE FIRST OPERATION.

No.	Age.	Duration before operation.	Date of operation.	Glandular affection.	Date of recurrences or subsequent operations.	Date of death.	Cause of death, when known, and condition of patient as regards the disease.
1	58	4 months.	October, 1882.	Axilla.	February, 1883: Axillary glands; removed.	April, 1884.	Extensive ulceration of the tissues around the scar.
2	48	2 months.	November, 1883.	Axilla.	No local recurrence to be felt.	September, 1884.	Acute pleurisy.
3	47	1 year.	February, 1869.	Axilla.	July, 1889: Recurrence in scar; removed. September, 1889: recurrence at axillary end of scar; removed.	—	September, 1895: Alive and in good health; nothing abnormal to be felt in axilla or around scar, but the arm is slightly œdematous.
4	40	Uncertain.	August, 1884.	Axilla.	April, 1888: Axillary glands and evidence of disease of lung; no operation.	April, 1889.	From carcinoma of the lung.
5	56	3 months.	March, 1883.	Axilla.	March, 1884: Axillary gland; removed.	February, 1886.	From carcinoma of the lung.
6	66	Uncertain.	1870.	Axilla.	1871: Axillary gland; removed. November, 1887: Mass of axillary glands removed; supra clavicular glands could be felt, but could not be noticed.	January, 1891.	From spread of disease to the deep structures of the neck and thorax.
7	55	1 year.	February, 1891.	Axilla.	—	1892.	General dissemination. In the operation the pectoralis major was found to be involved and was partly removed.
8	37	Uncertain.	May, 1883.	Axilla.	—	June, 1892.	General dissemination.
9	48	Uncertain.	July, 1886.	Axilla.	—	April, 1888.	From carcinoma of the lung.
10	47	2 years and 6 months.	July, 1893.	Axilla.	December, 1893: Recurrence in scar and axillary gland; removed. July, 1894: Axillary gland; removed; first part of sternum prominent. September, 1896: Mass in axilla; arm œdematous; brachial neuralgia; no operation.	—	Disease steadily progressing; no further operation deemed advisable.

TABLE C.—CASES OF ATROPHIC CARCINOMA.

No.	Age.	Duration before operation.	Date of operation.	Whether glands were affected.	Date of local recurrences and subsequent operations.	Date of death.	Cause of death or present condition if alive.
1	65	1 month.	August, 1880.	None.	None.	July, 1894.	From influenza, without any evidence of return of disease locally or generally.
2	53	8 years.	February, 1883.	None	May, 1885: Recurrence in scar and axillary glands; removed.	November, 1886.	From carcinoma of the lung.
3	50	—	March, 1879.	—	—	June, 1892.	From secondary growth in mediastinum.
4	52	6 years.	1885.	Axilla.	—	—	1890: Ulceration around scar; general health good; not heard of since.
5	55	—	March, 1885.	None.	November, 1888: Axillary gland; removed. July, 1889: Axillary gland; removed.	—	March, 1896: Ulceration of scar; great œdema of the arm and brachial neuralgia.
6	47	4 years.	February, 1889.	Axilla.	None.	—	March, 1896: Alive and in good health; no evidence of return of disease.

the primary operation, and a more complete clearance of the axilla should give better results. No. 6 is interesting on account of the long period—sixteen years—that elapsed between the first and second recurrences and her ultimate death from spread of the disease twenty-one years after the first operation.

Duration of life.—One (No. 7) died within one year of the operation; one (No. 1) died 1 year and 4 months after the operation; one (No. 9) died 1 year and 9 months after the operation; one (No. 5) died 3 years after the operation; one (No. 2) died 3 years and 10 months after the operation; one (No. 4) died 4 years and 8 months after the operation; one (No. 8) died 9 years after the operation; and one (No. 6) died 21 years after the operation. Leaving out the last case as being quite exceptional the average duration after operation is nearly 3 years and 6 months.

In Table C. there are six cases where an operation has been performed. I would mention here that hitherto it has been my father's practice not to operate in most cases of atrophic carcinoma excepting under special circumstances. No. 6 was free from any evidence of disease seven years after the operation; No. 1 died free from any evidence of disease fourteen years after the operation; No. 2 died three years after the operation, but eleven years from the commencement of the disease; No. 3 died thirteen years after the operation—both these two latter from the disease; Nos. 4 and 5 are alive but with the disease in progress—No. 4 five years after operation and eleven years from the commencement of disease, and No. 5 eleven years after the operation. In percentages 33⅓ per cent. have been cured; 33⅓ per cent. have died from the disease; and 33⅓ per cent. are alive with the disease advancing. These figures simply bear out what is already generally stated about the prolonged duration of life in these cases.

Whether a more extensive operation would give better results it is difficult at present to say because of the length of time that must be allowed to elapse after the operation before any fair conclusions can be drawn. One thing is certain, that to put such cases among a list of ordinary carcinomata would lead to quite erroneous conclusions as to the average duration of life.

Three years' limit.—The principle of regarding an

immunity from recurrence for three years after operation as being practical evidence of a cure is based on the statement that a large majority of the recurrences occur within three years—and, indeed, 80 per cent. are said to recur in the first year after the incomplete operation. Now in Tables A. and B., which may be taken to be an average class of cases, local recurrences took place in 26 out of the 35 cases—i.e., 74⅔ per cent. Of these 8 recurred within a year = 30⅘ per cent.; 18 in all had recurred in three years = 69⅕ per cent.; leaving 8 cases, or 30⅘ per cent., which recurred after three years. Now in these cases the operation was one which is now regarded as incomplete; it is therefore reasonable to conclude that the radical operation at present advocated would be followed by a larger proportion of cases recurring after three years.

To show the possible effect of such a time limit on statistics I place side by side the total percentage of cures and failures in Tables A. and B., reckoned first without and secondly with a three years' limit, on the presumption that after three years' immunity the cases had been lost sight of or not followed up.

Without any limit.	With a three years' limit.
29 failures out of 35 cases.	20 failures out of 35 cases.
= 82⅞ % failures.	= 57⅛ % failures.
17⅛ % cures.	42⅞ % cures.

With the time limit Nos. 2, 4, and 8 in Table B., and Nos. 11, 14, 16, 23, 24, and 25 in Table A., would have to be put down as cures.

Stratford-place, W.

INDIGESTION AND BRIGHT'S DISEASE.[1]

By NESTOR TIRARD, M.D., F.R.C.P. LOND.,

FELLOW OF, AND PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS AT, KING'S COLLEGE, LONDON; PHYSICIAN TO KING'S COLLEGE HOSPITAL.

THE association of symptoms of indigestion with acute or chronic Bright's disease is constantly coming under observation. Very commonly the persistence of the symptoms of indigestion or the accompanying attacks of vomiting are the immediate causes of an examination of the urine, and they may thus be the first warning notes which lead to the establishment of a diagnosis of Bright's disease.

Vomiting, which is often a premonitory symptom of acute uræmia, may in more chronic cases continue for weeks or months in spite of all that is done to arrest it. It may defy every dietetic precaution and it may resist all forms of medicinal treatment. Mostly it is associated with troublesome constipation, but it may occasionally be accompanied by diarrhœa of an equally intractable description. Sometimes these symptoms may give rise to a suspicion of malignant disease affecting some part of the alimentary canal. Some twelve years ago when attending a gentleman who had exhibited well-marked symptoms of chronic kidney disease, an inter-current attack of vomiting led me to seek the advice of a leading consultant, and I had the greatest difficulty in persuading him that transient fulness and sense of resistance in the region of the cæcum were not permanent conditions and evidences of malignant disease. In view, therefore, of the great liability to error I venture to lay stress upon the importance of extreme caution when confronted with vomiting, diarrhœa, or both, in connexion with albuminuria. A little delay while watching the progress of a supposed tumour may prevent the anxieties attaching to a diagnosis of malignant disease. The tumour may shift its position and under appropriate treatment may disappear entirely, as indeed it did in the patient I have already referred to. True uræmic vomiting very frequently occurs in the early morning, before food has been taken, and in old standing cases the vomit has often an alkaline reaction and an ammoniacal odour. It may, however, occur at any time during the day without any relation to the time at which food has been taken, and, as in a patient lately under my care in King's College Hospital, the vomited matters may be little else than deeply bile-tinged mucus, sometimes of a vivid green colour. In the case in question the vomiting continued for some four or five days before the end, and the clinical features were in every respect those of advanced chronic kidney disease from alcoholism.

The condition I have described is usually a prelude of more serious uræmic symptoms, but the digestive system commonly shows signs of impaired activity, which do not necessarily lead up to actual vomiting. Patients with chronic kidney mischief frequently exhibit a thickly furred tongue and suffer from anorexia. They find by unpleasant experience that they have to be careful in their mode of living, that many common articles of diet disagree with them, and that they are prone to flatulent discomfort, eructations and other evidences of chronic gastric catarrh which sometimes leads to considerable prostration. The relationship of these two conditions is not, however, always easy to follow. Sceptics are not wanting who urge that many persons are dyspeptic without having Bright's disease, and that the two conditions may run side by side in the same case without any necessary connexion. Although this is undoubtedly true for some cases, true renal dyspepsia seems to be marked by an intractable character which lends a distinguishing feature, and most authors admit that chronic dyspepsia and vomiting form part of the phenomena of chronic uræmia; but, when from other indications we are convinced that Bright's disease has long existed in the case before us, and when the nature of the pulse, of the sounds of the heart, of the skin, and, perhaps, of the retina, all point in one direction, we may still find great difficulty in stating definitely in what way Bright's disease has caused the apparently consecutive dyspeptic trouble. For practical purposes vomiting and dyspepsia may be considered together, the former being regarded as the most obvious symptom and evidence of the latter. It has been suggested that in these cases the wall of the stomach partakes of the general œdema and that, as a consequence, its functions are impaired. This suggestion is one which it is most difficult to prove and almost equally difficult to disprove. The condition described can scarcely be determined on the post-mortem tables, since it is quite conceivable that œdema of a mucous membrane sufficient to produce symptoms during life might leave no trace after death; further, it must be noted that the dyspepsia of chronic kidney disease is often, as I have already said, the first symptom to attract attention: it frequently precedes any indication of œdema or dropsy in other parts of the body. Even if we admit that symptoms of dyspepsia might and should result from œdema of the wall of the stomach, there appears to me to be much more against the œdema theory than in its favour. As generally recognised, œdema either affects the whole of the body when it results from some altered state of the blood, or it is localised when it is consecutive to some alteration in the blood current, whether produced by alterations in the vascular wall, or by some disease of the heart or lungs leading to diminished rate of movement of the blood. Now, an œdema of the stomach without indication of other dropsical signs would not fit into either category, and it appears to require too great a stretch of the imagination to be considered at greater length.

Another suggestion, which is also difficult to prove, although it appears more probable, is that the vomiting and dyspepsia are due to some eliminative effort by which the deficient work of the kidney is to be performed vicariously. I have already referred to the alkaline reaction and ammoniacal odour of the vomited matters in chronic and persistent cases of renal vomiting. These certainly seem to point to eliminative action, and it is quite conceivable, I think, that in milder cases the eliminative processes may produce a form of gastritis. It is generally admitted that certain drugs may cause vomiting during their elimination owing to a local irritative effect upon the mucous membrane of the stomach. For example let me remind you of the three-fold emetic action of tartar emetic; how it produces an early act of vomiting owing to its direct action upon the wall of the stomach, how it is speedily absorbed and then again, by its influence on the medulla, causes vomiting, and how it may yet cause a third or prolonged bout of vomiting and nausea during the time of its

[1] A paper read before the Nottingham Medico-Chirurgical Society on April 29th, 1896.

excretion by the mucous membrane of the stomach. That these are not fanciful theories has been shown by Magendie's conclusive experiment of replacing the stomach by a bladder and injecting the tartar emetic into the blood. In further support of this idea of the influence of elimination in determining indigestion and vomiting, stands the clinical fact of the relief of symptoms which may occasionally result from free purgation. This relief is seen most markedly in cases of acute nephritis, as for example in those occurring after scarlet fever, when several watery evacuations are commonly followed by a general improvement, the headache and insomnia pass away, the œdema diminishes, and after a time the kidney resumes its previously checked functions. The relief afforded by purgation is not, however, limited to these cases of acute scarlatinal nephritis, it is sometimes seen in cases of chronic kidney disease, and it accounts for the frequency of the routine administration of the compound jalap powder. In such cases, however, we must not assume too hastily that the benefit of this purgative action is solely or even mainly due to vicarious elimination of nitrogenous matters through the channel of the bowel. It is more probable that the free removal of fluid diminishes the renal engorgement and that, by relieving the strain upon the renal vessels, it produces a condition of temporary physiological rest which enables the damaged kidneys to recover and regain their interrupted functions.

While recognising the important indications afforded by dyspeptic troubles in the course of chronic and acute disease of the kidney, it is well not to overlook the influence of various gastric derangements in the *production* of kidney disease. Dyspeptic troubles are not always the sequel; they may play an important part as a predisposing cause. It is more particularly to this aspect of the association of the conditions "dyspepsia and Bright's disease" that I wish to invite attention.

The term "digestive albuminuria" is frequently met with in literature, and it seems to imply that the albuminuria is due to some interference with the digestive powers. The influence of diet in causing albuminuria in healthy people has been frequently asserted and frequently denied, but doubtless we have all met with cases of albuminuria in young men which have appeared to depend upon some dietetic errors. I remember one such case in a young city man who was trying to live on two meals a day, and who was in the habit of taking enormous breakfasts, which often consisted of chops and always concluded with two or three boiled eggs and then marmalade. The albuminuria entirely disappeared with a more rational dietary. Numerous similar cases have been reported by other observers, notably by Grainger Stewart and Brunton, and the connexion with errors of diet is now so well recognised that recently, in insurance work, a man with tense arteries and renal aspect tried to apologise for his albuminuria on the ground of some hard-boiled eggs at breakfast that morning. (It is, perhaps, needless to add that I accepted his apologies and acted upon my own observations.) It cannot be doubted, however, that the existence of oxaluria or of uric acid lithiasis is a very common source of chronic kidney trouble. The frequency with which gout is followed by chronic nephritis has long been recognised, and it is worth bearing in mind that dyspepsia is an extremely common prodromal symptom of gout. The frequent irritation of the kidney by oxalates or by uric acid cannot fail to be followed by permanent changes. Individuals living in large cities, leading an inactive life and taking large quantities of food, are very prone to be troubled in this way, and in these people the foundation of the chronic kidney trouble is undoubtedly to be found in the long-continued dyspepsia.

Again, the association of chronic alcoholism with interstitial nephritis is well recognised, and it must be remembered that one of the leading symptoms of chronic alcoholism is dyspepsia. In our hospital work we all know the probable causation of frequent slight diarrhœa, nausea, and distaste for food, especially in the morning, a collection of symptoms commonly exhibited by Covent Garden porters and sometimes by cabmen; and we are familiar with the deprecatory smile and the final grudging admission of "a tidy drop." Now these cases are laying the foundation of chronic kidney mischief, not so much in irritation of the kidney by the alcohol, since, as you know, a large proportion of the alcohol is eliminated by the lungs, as by the dyspepsia which results from their habits. Most of these men are badly nourished owing to their distaste for food; most of them are melancholic from a similar cause; and a large number pass urine from which a copious collection of crystals may be obtained. They are subject to repeated attacks of gravel, and in this way, in all probability, Bright's disease is started by the mechanical irritation of the lining membrane of the tubules of the kidney.

That it is not always easy to determine the true course of events may be shown by brief notes of the following cases. A middle aged man told me he had albuminuria, and at the first examination of his water it was very pale and I could only find a faint trace of albumin. He was disposed to date his troubles from an attack of influenza, but he had a thickly-coated tongue, his teeth were very bad, and he said he had frequently had much dyspeptic trouble. His mother died from Bright's disease. In this case I believe the sequence of events to stand something like this: (1) hereditary predisposition; (2) dyspepsia from deficient power of mastication; and (3) consecutive kidney trouble. From the vagueness of the account it is obvious, however, that the position of the last two conditions might be reversed, but the absence of arterial changes and of alteration in the sounds of the heart lead me to think that the albuminuria and the kidney trouble were in an early stage.

To give another example of the production of renal trouble through the digestive system. Two years ago I saw a patient with an intermittent heart and a florid complexion, and at that time there was no albumin in his urine. I thought then that he drank too much alcohol, and my suspicions were confirmed later by the development of an alcoholic aspect, a furred tongue, and by finding a trace of albumin in his urine which had a specific gravity of 1020. This case I think must be recognised as illustrating the evolution of chronic kidney disease produced by the irritative action of alcohol upon the digestive system.

One of the most interesting cases of this nature which has come under my observation is that of a man, whom I have seen at long intervals during the past ten or twelve years. He was frequently troubled with gravel and passed beautiful stellate crystals and often described the irritation they caused. He had a strongly marked family history of renal trouble. In spite of repeated warnings of the dangers incurred he made little or no change in his habits, and of late after sundry well-marked gouty attacks his urine, whenever I have examined it, contains a trace of albumin. Whether the albuminuria is simply due to the continued irritation of the kidney or the pelvis or ureters by the stellate crystals, or whether this irritation has yet led to definite structural alterations in the kidney, I hardly know. He has no retinal changes, his aspect does not present any characteristic pallor, and his pulse does not show any high tension, except during the attacks of gout. Still, one cannot help feeling certain that the future of this case will be marked by the gradually increasing discomforts and dangers of chronic renal disease.

In endeavouring to estimate whether the renal trouble—the albuminuria—is due to true structural disease or only to some transient and possibly unimportant irritation it is well to determine the nature of the albumin, but very often examination of the pulse, the heart, and the eye afford indications of greater value. For example, a woman aged thirty-five years was recently brought to me by Mr. Philip Birch with the following history. Six years ago, during her first pregnancy, she had cystitis, which lasted two years and was accompanied by a trace of albumin which seemed just more than could be accounted for by the pus present. Then she became pregnant again and lost all trace of cystitis and albumin. Last summer she had an intermittent pulse, and in spite of treatment the pulse had not regained regularity. Her digestion seemed fairly good, but she was very pale and had a characteristic subconjunctival tear. The pulse tracing showed marked high tension as well as intermission, and although I could get no reaction with nitric acid or picric acid, a faint line of opacity soon formed with trichloracetic acid and demonstrated the cause of the intermittent pulse.

A somewhat similar case—a man aged thirty-six years—was sent to me by Mr. Stanford Morton, who described hæmorrhages and patches of fatty degeneration in his fundi, which gave all the appearance of albuminuric or diabetic retinitis. The urine in this case had a specific gravity of 1020, gave no reaction for sugar, and no reaction with nitric acid or picric acid, but only a faint cloud with trichloracetic acid; but the pulse tracing and the sounds at the base left no doubt that we were dealing with a case of chronic kidney disease in the non-albuminuric phase.

Such cases almost speak for themselves, and even in the

relative absence of albuminuria, one has no difficulty in attributing them to chronic Bright's disease. They are in the stage of quiesence—the stage so often recognised of chronic renal disease *without albuminuria*. The absence of albumin does not remove them from the category of chronic renal trouble. I even venture to doubt whether since Bright's discovery of the association of albuminuria with renal changes the true significance of many cases has not been obscured, rather than helped, by the constant search for albumin. To take only one aspect, that of life assurance, I believe that by many medical examiners both these cases might have been passed; and I fear that in testing for albumin we may perhaps be tempted to devote too little attention to the appearance of the patient and the character of the pulse. Further, I think that the true bearings of these cases might readily be overlooked if at a later stage they presented themselves for the treatment of dyspeptic troubles. The dimness of vision of which the man complained might easily be referred to dyspepsia, while an intermittent pulse is, according to many teachers, of so little moment that, if the primary cause of complaint appeared to be dyspepsia, the intermission might probably be regarded as a passing vagary scarcely worth noting.

From what has been said it will be seen that I consider it most important, when dealing with dyspepsia and albuminuria, to endeavour to form an accurate idea of their relation to one another. Not only the prognosis, but also the treatment, depend largely upon a correct recognition of whether the indigestion is the result or the exciting cause. If it is the result the nature of treatment must vary somewhat with the urgency of the symptoms. In any case free purgation is essential, and the use of hydragogue purgatives is to be preferred. We should never attempt to stimulate the action of the kidney directly by diuretics, even when the amount of urine passed is much below the normal quantity. If the nature of the urine indicates acute engorgement our object should be to promote physiological rest, to diminish the amount of work required of the kidney by removing water from the system by other channels. Frequently, in severe cases, the use of the wet pack or the vapour bath becomes an all-important factor in the treatment of renal vomiting. If we recognise at an early stage the true renal nature, our treatment is more likely to be serviceable than if we confine our attention to the condition of the stomach. Regulation of diet and the use of gastric sedatives, although they should not be neglected, are not likely to give good results unless at the same time we treat the underlying cause of the symptoms. On the other hand, if the symptoms are not so urgent, and if we have reasonable cause for suspecting that the albuminuria is the result of the dyspepsia, our course is equally clear. We must endeavour to ascertain whether the trouble is merely dietetic or whether it is oxaluric or lithæmic, but I will not be wearisome by giving any further details of a subject so simple. The main thing is to regulate the diet and by careful study of the individual case to determine what constituent should be removed. Sometimes it is a mere question of distribution, preventing overloading of the stomach on one or two occasions during the day. Sometimes we find it necessary to eliminate eggs or pastry or cheese; in oxaluric cases we remove sugar and reduce the vegetable acids, and so on. The treatment really presents no difficulty when once a satisfactory diagnosis has been made.

To state briefly the conclusions to be drawn from the foregoing observations, although I would by no means underrate the importance of testing the urine in every case of chronic dyspepsia occurring in adult life, so as to run no risk of overlooking an existing Bright's disease, I venture to lay stress upon the frequency with which long-continued dyspepsia stands in the position of predisposing cause, rather than as the result of chronic kidney disease.

Harley-street, W.

KENT BENEVOLENT MEDICAL SOCIETY.—The annual meeting of the members of the Kent Benevolent Medical Society was held last week in the library of the Kent and Canterbury Hospital. Mr. A. Long of Dover presided, and the accounts for the year showed that of £421 13*s.* 1*d.* which had been received during the past twelve months (including a legacy of £50 from the late Mr. John Marshall of Dover) a sum of £371 14*s.* 1*d.* had been expended. The meeting unanimously resolved that £100 out of the balance in hand should be added to the invested capital of the society, and that the sum of £305 should be distributed amongst the applicants whose names were before the meeting.

A MODIFICATION OF DR. FOWLER'S METHOD OF STERILISING CATGUT.[1]

BY HENRY JELLETT, B.A., M.B., B.CH., B.A.O. DUB.,
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THE perfect sterilisation of catgut is such an important point in modern surgery that the following method of accomplishing it may be of interest to surgeons. The mechanical details of the process are new as far as I am aware, but the principle was originated by Dr. Fowler, who sterilises catgut by sealing up suitable lengths of it in a strong horseshoe-shaped glass tube containing alcohol, the tube being then raised to whatever temperature is thought advisable either by heating it in some liquid of sufficiently high boiling point or by placing it in a dry steriliser. Catgut, owing to its origin and mode of preparation, is essentially a septic material. It is made by twisting into cords the specially prepared submucosa of the small intestines of the sheep, and the twisting process has the effect of bringing bacteria, which at first were on the outside of the intestine, into the centre of the threads. The fat which is present then glues the different strands firmly together and encloses the bacteria in a sheath which is impermeable to the ordinary means of sterilisation. When, however, the catgut is introduced into the body, during the process of absorption every particle of it is layer by layer brought into contact with the surrounding tissues, so that while bacteria contained in silk or silkworm gut may never come into contact with the tissues every bacterium present in catgut is of necessity obliged to do so, and it is this property of being absorbed which makes the absolute asepsis of catgut so imperative.

The chief methods of rendering anything aseptic are—(1) the removal of germs by mechanical means, and (2) the destruction of them by germicides. The first of these is useless as far as catgut is concerned, and we must rely upon germicides, which can be divided generally into—(1) certain chemical substances and (2) heat in some form. Chemical methods are all placed at a great disadvantage owing to the bacteria in catgut being encased in fat. They mostly depend on first removing as much of the fat as possible by soaking the catgut in ether and then subjecting it to the prolonged action of an antiseptic, but all these methods necessitate very frequent changing of the solution, they are exceedingly expensive, and they are very far from certain, for cultivations have often been grown from catgut which was believed to be absolutely pure. Heat is very much more certain in its operation than chemical antiseptics, for boiling water will destroy anthrax spores in two minutes, while even 1 per cent. solution of corrosive sublimate will require several hours for the same purpose. Boiling water or steam, however, cannot be applied to catgut, as it swells in them and becomes a shapeless mass, while dry heat is difficult to manage and requires very many precautions in its use, else the catgut becomes brittle and useless. In short, a medium is required in which catgut can be heated without destroying its strength, and this is best furnished by alcohol, which, however, boils at 173° F., and as this temperature is not sufficient the alcohol must be super-heated.

By Dr. Fowler's method already described the catgut is raised to 212°, the bacteria are destroyed, and at the same time the gut is kept strong and serviceable, but the surgeon is under the necessity of buying catgut already prepared and sterilised. I venture, therefore, to make known the following slight modification of Dr. Fowler's method, as it enables the sterilisation to be easily and quickly performed by anybody. The catgut, instead of being sealed up in glass tubes, is rolled on glass plates and placed in a special brass box three-quarters full of alcohol, and the whole is then immersed in boiling water for the necessary time. The box is strong enough to stand the required pressure—viz., a force of about four pounds to the square inch. It has a screw-top provided with an indiarubber washer and projecting arms above and below to facilitate screwing it up or opening it. The catgut must be absolutely dehydrated and must not

[1] A paper read before the Obstetrical Section of the Royal Academy of Medicine in Ireland on April 6th, 1896.

be rolled too tightly on the plates. A coil of ninety inches long will lose from half an inch to an inch of its length during its preparation, so that if it is rolled too tightly at first it will be very much weakened, and also will be extremely difficult to unwind from the plates. It should be very loosely rolled on the glass plates and placed in a jar containing absolute alcohol for three or four days in order that the contained water may be perfectly removed. The plates are then transferred to the brass box, which is three-quarters filled with alcohol, and after screwing on the lid it is placed in a saucepan in cold water and boiled over a stove, being removed a quarter of an hour after the water has begun to boil. The water in the saucepan should at first be cold, or nearly so, because when it begins to boil the brass box and its contents have reached the same temperature as the water and, therefore, the catgut is kept for fifteen minutes at 212°; but if the water were boiling at the commencement some little time would be required for the heating of the box and its contents, and the catgut might not be kept long enough at the required temperature. When the box has cooled the plates are removed to a jar filled with a mixture of alcohol and glycerine, containing from 5 to 20 per cent. of glycerine according to the degree of stiffness required in the catgut. This mixture of alcohol and glycerine should be changed every week or ten days, for alcohol has an extremely small germicidal action and bacteria fall into the jar during the removal of pieces of the catgut from the plate.

Whilst the primary object of this steriliser is to prepare catgut it can be used for sterilising by heat anything which cannot be placed in boiling water, such, for example, as sea-tangle tents. It can also be used to re-sterilise the mixture of alcohol and glycerine in which the gut is kept. The steriliser is made by Messrs. Fannin and Co., Grafton-street, Dublin.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

"TRANSIENT AMBLYOPIA DURING LACTATION."

BY CHARLES E. S. FLEMMING, M.R.C.S. ENG., L.R.C.P. LOND.

IN THE LANCET of July 18th there is an annotation with the above heading, and as these cases are not common I venture to send notes of a case which lately occurred in my practice.

A healthy woman aged forty-two years was confined on the morning of April 10th, 1896. The labour was normal and she seemed to be doing well until the morning of the 13th, when she became almost blind, had marked photophobia, and severe frontal headache. Her pulse was full and her temperature was 100° F. The bowels had acted freely during the night. The next day the temperature was 99·2°, but the headache and photophobia continued as severe and she had merely perception of light. I thought I detected some swelling of the disc, but it was not marked and there was much difficulty in examining the eye. There were no other signs then or later of septic mischief, and on the following day the temperature was normal. On the fourth day the pain began to subside and vision improved a little, but it was a fortnight before the headache and photophobia quite disappeared, and then, although vision had much improved, the patient described it as much worse than it used to be. She informed me that she had had "weak" sight since childhood, and that her left eye had always squinted, and that she had never been able to see more than light with it. After each of the two previous confinements she suffered in the same way from pain and blindness only in a less degree. Her health had otherwise always been good. Six weeks later I examined her eyes under atropine and found: left internal strabismus fixed; right disc normal, left small; mixed astigmatism in both eyes; right vision = $\frac{6}{9}$ with correction $\frac{2}{12}$, and left vision = perception of light.

Freshford, Bath.

ACEPHALOUS INFANTS.

BY J. L. KERR, M.D., C.M. ABERD., F.R.S.E., LATE EXAMINER IN CHEMISTRY AND IN MEDICAL JURISPRUDENCE, UNIVERSITY OF ABERDEEN.

I HAVE lately attended two women who gave birth to acephalous infants. One was a young woman and the other a middle-aged woman. In each case the child was of very large proportions and otherwise of normal conformation and very well nourished; both would have been living if the parturition had been easy and uncomplicated. The portion of the skull which was absent was in each case occipito-parietal, an oblique line passing downwards and backwards from above the middle of the forehead above the ears to the occipital protuberance being the boundary. The conclusion come to by me from inspection of the parts is that each was a case of intra-uterine amputation, the same as is seen in children born without a portion of some limb. Any further observations by others may confirm or correct my theory and are hereby solicited.

Crawshawbooth, Manchester.

AXILLARY *VERSUS* RECTAL SALINE INJECTIONS.

BY GEORGE HENRY BUTLER, L.R.C.P. IREL., L.R.C.S. EDIN.

THE case of injection of normal saline fluid into the axilla for severe loss of blood lately recorded in THE LANCET leads me to think that a report of the following case, which occurred in my practice recently, may be of interest to some of my fellow practitioners.

On June 29th last, about 2 P.M., I received an urgent message to visit a woman. On my arrival I found her in bed, blanched from loss of blood, the pulse imperceptible, respiration sighing, and nearly constant vomiting. In fact, the symptoms and appearances were those of impending death from hæmorrhage. I found she had gone nearly her full term in pregnancy and had been losing blood very freely for some hours. There had also been slight loss of blood at intervals for about a month past. It being impossible to give nourishment or stimulants by the mouth on account of the constant sickness I injected strychnine and brandy hypodermically, and as soon as the patient had rallied somewhat proceeded to make an examination. The pains were very slight. I could feel the edge of the placenta through the os, which was dilated just sufficiently to pass a finger, and separated it from the uterine wall as far as I could reach. The membranes could not be reached. I then plugged the os and vagina thoroughly with wool gauze and injected ergotinine. The patient at this stage and for about two hours was in a desperate condition, and I resorted twice to the injection of normal saline fluid into the rectum with extremely good results. It was necessary to press a pad firmly against the anus in order to retain them, on account of the violent retching at frequent intervals. After waiting three hours, and having injected ergotinine again, the pains being stronger, I removed the plug in hopes of being able to rupture the membranes. I found the os very little larger and bleeding coming on very freely I plugged again. The patient having somewhat improved, I left her at 6.30. On visiting her again at 8.30 I found her better, the pains much stronger and more frequent. There had been no further loss. I now removed the plug and found the os dilated to the size of half-a-crown. The presentation was cranial, first position, and I was now able to rupture the membranes. At the patient's urgent request I gave a little chloroform and in about an hour delivery was effected by the natural powers. The child was stillborn. The woman has made a good recovery. I think this mode of introducing saline fluid into the system is quite as effectual and much less painful than the other. I had no apparatus for transfusion with me. The case was much handicapped by the sickness. No nourishment could be retained till after delivery was effected; only small pieces of ice sucked frequently. I cannot help thinking that the woman's life would have been lost had any violent measures for effecting immediate delivery been resorted to. The only chance seemed to be to stop the loss and give her time to rally.

Wealdstone, Middlesex.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, Lib. iv. Proœmium.

PLYMOUTH BOROUGH ASYLUM.

A CASE OF ANEURYSM OF THE HEART; NECROPSY.

(Under the care of Mr. ARTHUR N. DAVIS, Medical Superintendent.)

A MARRIED woman aged fifty-seven years, the mother of a large family, was admitted into the asylum from a neighbouring county asylum in which she had been detained for several years. She had been at all times a very hard-working woman and up to a few days before her illness continued to employ herself. She was the subject of various delusions, the principal being that she had been robbed of her property and money by lawyers and medical men. She would talk upon this subject in the most incoherent fashion for hours, working herself into the most acute mental excitement, shouting, gesticulating, and foaming at the mouth. These outbursts of passionate invective generally left her either without voice or very hoarse, and continued to increase in frequency up to the time of her illness, which was characterised by dyspnœa, pain over the cardiac region, slight hæmoptysis and cough, followed later by night-sweats, orthopnœa, and death exactly four weeks from its commencement.

At the post-mortem examination the body was found to be well-nourished, but over the region of the back and in the armpits there were several scattered blue spots the size of split peas which, on section, were found to consist of enlarged bloodvessels. The meninges and sinuses of the brain were normal, but the arteries were partially atheromatous, the brain itself showing no naked-eye abnormality. Both lungs were congested throughout, crepitant, with bases somewhat friable, and the left was universally adherent to the chest wall and diaphragm by firm, attenuated adhesions. The sac of the pericardium was free from fluid, but was adherent to the anterior surface of the left ventricle over an area three inches by three inches, although it peeled off fairly easily. The heart weighed nineteen and a half ounces, its coronary arteries were slightly atheromatous, but all the valves were healthy; the mitral orifice measured four inches in circumference.

The Clinical Research Association have reported as follows: The heart shows a large aneurysm involving chiefly the anterior wall of the left ventricle. The mouth of the pouch is nearly four inches across, but on scraping away the laminated clot which fills it the endocardium is exposed over much of the concave surface of the aneurysm, thus showing that the wall of the heart is merely bulged out. However, at the upper border of the aneurysmal sac there is a large rupture of the wall, by which the blood has infiltrated and destroyed the thin layer of muscle substance which bounds the sac. This, too, has caused the local pericarditis. The valves are healthy. Patches of white thickening occur in the endocardium, which suggest that the disease is due to syphilis affecting the cardiac muscle.

Remarks by Mr. DAVIS.—The aneurysm may have been due to the vascular strain caused by the intense and frequent paroxysms of mental emotion. There were no evidences of syphilis unless the complete absence of teeth pointed to the probability of mercurial treatment in the past.

DUNDEE ROYAL INFIRMARY.

TWO CASES OF TETANUS TREATED BY ANTITOXIN.

(Under the care of Dr. DAVID MACEWAN.)

IT is very desirable that all cases of the treatment of tetanus by antitoxin should be put on record, and especially that those cases should be reported in which the use of this treatment has been followed by a fatal result. Not that there is any doubt as to the value of the antitoxin, but the fuller our acquaintance with the results obtained the more reasonable will be our expectations of success in the future. In tetanus, whether untreated or treated by sedatives, the chief element in prognosis is the length of the incubation period; and if the tenth day has passed after the infliction of the wound the hope of recovery is fair. And so it is with cases treated by antitoxin; with an incubation period of less than ten days the prognosis is very grave. The second case is of great interest. Puerperal tetanus, though rare, has been many times recorded. The frequency of its occurrence varies greatly in different parts of the world, and, like the traumatic variety, it is much more frequently met with in the tropics than in temperate climates. Epidemics of puerperal tetanus have been recorded in India, and these were, in all probability, due to infection by midwives from case to case. Tetanus has occurred both after abortion and after labour at full term; both in cases where no examination has been made, as in the case here recorded; and also in cases in which obstetrical operations, such as version, Cæsarean section, and Porro's operation, have been performed. Epidemics have also been recorded in the lower animals.[1] It has been shown by Doria[2] that the ordinary bacillus is present in the puerperal variety of tetanus. For the notes of the cases we are indebted to Dr. R. S. Mowatt, house surgeon.

CASE 1.—A man aged fifty years was admitted to the Dundee Royal Infirmary on March 3rd, 1894, complaining of closure of the jaws and pain in the neck and back which had commenced five days previously. As regards his history, ten days after amputation of a toe for injury he began to have difficulty in opening his mouth and in swallowing. A day or two later he had also pain in the chest and back and periods of dyspnœa lasting from half an hour to an hour. On admission the wound had a very unhealthy appearance. There were some stiffness of the muscles of the jaw and slight opisthotonos. The temperature was 99° F. On March 4th there were frequent spasms and pain in the abdomen, which was hard and retracted. On the 5th the spasms occurred about every five minutes and affected the arms and legs as well as the abdomen. The pulse was 132 and the temperature was 100°. The patient had had fifteen grains of chloral every four hours since admission. This was now omitted, and fifty cubic centimetres of Pasteur Institute antitoxin were injected subcutaneously at 10.30 A.M. and repeated at 9 P.M. On the 6th the spasms occurred about every ten minutes. The muscles were more relaxed, but the patient was very much weaker. The temperature rose to 105°, and death took place in the evening somewhat suddenly.

CASE 2.—A married woman aged twenty-one years was admitted to the Dundee Royal Infirmary on March 28th, 1896, complaining of inability to open the mouth and stiffness of the neck which had begun four days before. Eleven days before admission she had a miscarriage at the fourth month and was not attended by any medical man or midwife. There was great loss of blood, which continued up till admission. Four days before admission she had pain about the angles of the jaws. On the next day the jaws were stiff and she was unable to open her mouth and had difficulty in swallowing; there was also pain in the back of the neck and between the shoulders. On admission she was in a very uncleanly state. The jaws were closed so that the tongue could not be protruded; there were slight opisthotonos and hardness of the abdominal muscles, but no stiffness of the upper or lower extremities and no spasms. The temperature was 99° F. and the pulse was 108. No wound or injury was discovered on the surface of the body. On the 29th in the morning she had three or four very severe spasms and became quite asphyxiated in appearance. Chloroform was administered, and under its influence the muscles relaxed and her natural colour returned. While she was under chloroform Dr. MacEwan dilated the cervix with Hegar's dilators and examined the cavity of the uterus, but found no placental tissue. The surface of the interior at the fundus, which was roughened, was curetted and the cavity irrigated with carbolic solution. At 1.50 P.M. she had one gramme of Messrs. Duncan and Flockhart's antitoxin injected subcutaneously and this was repeated at 7.30 P.M. She had a few spasms during

[1] Hutchinson: Transactions of the Obstetrical Society, vol. xviii.
[2] Il Policlinico, Jan. 15th, 1894.

the afternoon and in the evening there was no improvement. The pulse was 120 and the temperature was 101°. On the 30th the spasms were more frequent; she complained of pain in the abdomen, which was hard and retracted. The pulse was 144 and the temperature 102°. At 11.30 A.M. she had a hypodermic injection of ten cubic centimetres of the Pasteur Institute antitoxin and another at 5.30 P.M. In the evening, as the spasms had increased in severity, thirty grains of chloral were given by the mouth and doses of ten grains were given at intervals during the night. On the 31st the spasms were diminished both in frequency and strength, but the patient appeared weak and exhausted. Stimulants were freely given, but no improvement followed. In the evening the pulse was 144 and very weak and the temperature was 103°. She died at 7.15 next morning.

Remarks by Dr. MACEWAN.—These cases were of the acute variety: the periods of incubation were comparatively short—ten and seven days; the symptoms steadily increased in severity, and death occurred in both on the seventh day. Antitoxin was administered as soon as possible after their admission, but in neither did it avert a fatal issue or even produce temporary amelioration of the symptoms. The results of the treatment correspond with those of the published cases for twelve months given by Dr. Reynolds in the Year-book of Treatment for 1896, in which he says "that in most of the cases that recovered the incubation period was a long one—about two or three weeks—and that when the patient died this period was short—generally under one week; one or two exceptions to this are, however, recorded." The second case was of special interest from the fact that it occurred as the result of an abortion. Puerperal tetanus, although known from the earliest times, is of very infrequent occurrence. Garrigues, in the *American Journal of Obstetrics* for 1882, gives a collection of fifty-seven cases, twenty-five following abortion and thirty-two after parturition. Its symptoms and course are the same as those of surgical tetanus. It is generally acute, its incubation period being short and its course rapid. Of the fifty-seven cases given by Garrigues only seven recovered.

Reviews and Notices of Books.

Le Venin des Serpents: Physiologie de l'Envenimation, Traitement des Morsures Venimeuses par le Sérum des Animaux Vaccinés. Par le Dr. CALMETTE, Directeur de l'Institut Pasteur de Lille. (*Snake Poison and the Treatment of Snake-bite by Antitoxic Serum.* By Dr. CALMETTE.) Paris: Société de Editions Scientifiques. 1896. Price 3 francs.

IN this interesting little book Dr. Calmette presents in a compact form the results of his investigations of snake poisons, commenced in 1891, when he was superintendent of the bacteriological institute at Saigon, in French Cochin China. It is well known that some poisonous serpents are more dangerous than others, but Dr. Calmette has found that the poison of an individual serpent varies in its activity and is more virulent when the creature fasts. Considerable quantities of venom may be easily obtained at intervals from captive snakes by holding them by the neck with a pair of tongs and allowing them to bite a watch-glass, which receives the poison; a cobra six feet long emits on an average at each bite 135 milligrammes of venom, which on evaporation in vacuo yields from 30 to 45 milligrammes of dry residue. Of this dried cobra venom half a milligramme is fatal in three or four hours to a rabbit weighing two kilogrammes, being equivalent in virulence to 3½ milligrammes of dried rattlesnake venom. Heated to 98°C. in a water-bath for twenty minutes, cobra venom loses its poisonous quality; at lower temperatures, rising gradually from 70° C. to 90° C., inactive albuminous substances are separated and the residue, freed from salts by dialysis and dried, is forty times more virulent than the product obtained by simply drying fresh venom. Horses which are inoculated every four or five days with gradually increasing amounts of venom become in about two months capable of resisting a dose which would kill as many rabbits as would weigh 100 kilogrammes; the antitoxic power of their blood-serum is by that time well marked; but at least six months' continuance of the inoculations is necessary before the serum is sufficiently active for use in the treatment of snake-bite, so that for the preparation of this serum much more time is required than for diphtheria antitoxin. The serum retains its activity for at least a year if not exposed to heat. At temperatures above 50° C. it becomes inert. When a person has been bitten by a snake the place should be bathed as soon as possible with a solution of chloride of lime, and if it is on a limb a ligature should be applied above it. At least 20 c.c. of the serum should be injected into the subcutaneous cellular tissue of the trunk with the least possible delay; the treatment may be successful even though commenced as late as an hour and a half after the bite, for under ordinary conditions with adults death does not usually occur in less than three hours.

Hydro-electric Methods in Medicine. By W. S. HEDLEY, M.D. Edin. Second Edition. London: H. K. Lewis. Pp. 115. 8vo. Price 4*s.* 6*d.*

THIS edition is improved by the introduction of fresh matter and by the elimination of certain irrelevant parts which were found in the first edition. The author devotes a chapter to the continuous current bath given from the supply companies' mains, and points out the dangers which may be incurred and the modes of guarding against them. When the full pressure of the mains is used to drive current through a bath, and regulation of its amount is obtained by means of resistances, it is imperative that these safety resistances must be fixed both upon the positive and the negative wires, otherwise currents of dangerous magnitude may pass through the bath to earth, and of these currents the galvanometer upon one wire may give no proper indication. To insulate a large fixed bath from earth is probably impossible under the usual condition of working.

There is a very interesting account of Dr. Hedley's experiments to settle the vexed question of the relative current carried by the patient and by the water of an electric bath. We think the estimates given are rather high, but considering that a greater or lesser volume of water used or a variation of two or three degrees in its temperature may make a large difference it is hardly worth while to strive for minute accuracy in determining the point. The book is instructive throughout.

Water and Water-supplies. By JOHN C. THRESH, D.Sc. Lond., M.D. Vict., D.P.H. Camb., Medical Officer of Health to the Essex County Council. London: Rebman Publishing Company. 1896. Pp. 438. Price 8*s.*

THIS work was originally presented by Dr. Thresh as an M.D. thesis at Victoria University and deservedly received the honour of a gold medal. It gives a full and adequate account of everything appertaining to drinking-water and water-supply. Among many interesting chapters the most interesting generally will be that on the interpretation of water analysis. The chemical and bacteriological examination of drinking-water has been brought to a pitch of great perfection; but there has long been a lurking suspicion among many that in some cases the results were of questionable value. These doubts were strengthened by the facts which came out during the last epidemic of typhoid fever at Worthing. Water which chemically and bacteriologically could not be shown to be harmful was proved beyond the possibility of doubt to be the active agent in the spread

of the disease. A chemical or bacteriological certificate of purity in a water is worth practically nothing; *per contra*, chemical or bacteriological proof that a water is bad is of great value and trustworthy. This somewhat elementary fact, which has been much overlooked, is brought into its proper prominence by the author. The chapter on the sources of water-supply and its storage and distribution are full of points showing practical acquaintance with all the usual difficulties; and the last chapter on rural and village water-supplies will afford many hints to medical officers of health in the country. It is a complete and very scholarly treatise on one branch of public health work.

The Treatment of Phthisis. By ARTHUR RANSOME, M.D., M.A. Cantab., F.R.S., Consulting Physician to the Manchester Hospital for Consumption and Diseases of the Chest and Throat, &c. London: Smith, Elder, and Co. 1896. Pp. 237. Price 7*s.* 6*d.*

THE literature on the subject of tuberculous phthisis is so large that it would almost appear as if there were no room for any further treatise of this kind. But Dr. Ransome has succeeded in producing within a very small compass what will certainly prove to be an invaluable book to many a young practitioner. No form of treatment that has the least value has been omitted, and an unusually large but wise prominence is given to the different methods of prophylaxis. It is at once obvious on reading that we have before us the results of a great experience impartially and well reviewed, and the lines laid down can be safely followed. The uselessness of much of foreign travel, the neglect of the advantages of many of our own sanatoria, sea and inland, the apathy shown in this country in adopting more widely a modified open-air treatment, the value of alcohol in some of the early cases, the danger of reinfection from rooms previously occupied, and the inadequacy of dormitory accommodation at many of the largest schools, are among the many points particularly well discussed. Attention is again called to the effects of light on the tubercle bacilli and the experiments on the subject made by the author, the results of which were communicated to the Royal Society in 1894. Throughout his account of methods of prevention Dr. Ransome shows that he combines the qualities of skilled sanitarian and practical physician with much common sense. Much unnecessary pain and alarm have been caused by the extreme views taken by some as to the imminent danger caused by the presence of a tuberculous person in a house. In the next edition it would be well to embody the precise results given in the report of the last Commission on Tuberculosis.

From only one small piece of advice given by Dr. Ransome do we dissent; many a delicate man has been told to become steward on board a ship and found out too late how extremely unsuitable the life is in most cases. The men generally have very poor quarters, and the constant alternation from the hot air of the kitchen to the cold outside is not satisfactory.

It is an eminently judicious book, which will be read and re-read with profit.

Robert Burns in Other Tongues: a Critical Review of the Translations into Sixteen Languages of the Songs and Poems of Robert Burns. By WILLIAM JACKS, author of a Translation of "Nathan the Wise," &c. Glasgow: James Maclehose and Sons, Publishers to the University. 1896.

THE ex-Member for Stirlingshire has employed his leisure in the task, as useful as it is opportune, of reviewing the attempts of foreign literatures to reproduce and, if possible, to assimilate the poetry of that Scottish genius the centenary of whose death has just been celebrated throughout the Anglo-Saxon or, more truly, the Teutonic world. These attempts have been made in sixteen languages, all of them by enthusiastic students of Burns, none of them absolutely without merit, not a few of them, particularly those in German, surprisingly successful.

Mr. Jacks, for reasons which he makes very apparent, begins with these latter translations and he lays under contribution as many as eight different competitors from the Fatherland. He might have added a ninth—in some respects equal to any—Philipp Kaufmann, whose "Gedichte von Robert Burns: Stuttgart und Tübingen, 1839," has had many admirers, not only in Germany, but in the German-speaking communities of North America and the colonies. However, there is enough in the eight he selects from to justify his neglecting Kaufmann.

One advantage the German enjoys over the French or Italian translator is this: that belonging to a civilisation and culture more congenial to that of the Scottish poet, he can in nearly every case preserve the metrical forms of the original. Then the close linguistic affinity between German and Lowland Scotch puts him at a still further advantage, with the result that if his insight into the poet's meaning is adequate—above all, if he has caught its sentiment or ἦθος—his reproduction is about as near an approach to the original as the genius of the two languages admits of. Mr. Jacks is fully alive to the uses to which such translations may be applied by the English or even Scottish reader. Just as the incomparable version of Shakespeare by Tieck and Schlegel has often the value of a commentary, lighting up by the flash of a felicitous German equivalent a phrase which to the modern English student has become dark, so Mr. Jacks, himself a Border-Scot, acknowledges his indebtedness to a Teutonic translator for the true sense of a word in the chorus of the "Jolly Beggars."

From such masterly versions as Edmund Ruete's of "John Barleycorn" (Hans Gerstenkorn), or the same translator's "Scots wha hae wi' Wallace Bled" (Schotten! Wallace' tapfre Macht), there is a very considerable drop to the French and Italian. Most of these are in prose more or less rhythmical—some in rhymed metre, the happiest of which seems to us Léon de Wailly's "John Barleycorn" (Jean Grain-d'Orge). But the "Cottar's Saturday Night" by the same accomplished man of letters is only useful as showing how vastly inferior in compass, power, and melody is the French as compared with even the provincial English. Some lines are even ludicrous from their sheer literality. For instance—

> "The halesome parritch, chief o' Scotia's food,"

becomes—

> "Le salubre parritch, la principale nourriture de l'Écosse"!

inferior even to Signor Ortensi's Italian—

> "Il sano porridge, primo piatto della Scozia."

But it is painful to see the descendants of the old Latin exposing their nakedness in the attempt to reproduce the life and movement of a Teutonic tongue; so, passing over the Danish and Norwegian as well as the African-Dutch, the Frisian, the Bohemian, Hungarian, and Russian, which only the philological expert can appreciate, we come to the specimens Mr. Jacks gives us of the language of Latium as employed in the interpretation of Burns.

These he takes from two publications—that of the late Mr. Alexander Leighton (of the "Tales of the Border") and that of Mr. Alexander Whamond. For reasons which he does not adequately give he entirely omits the felicitous versions of the Scottish poet by the Cambridge scholars, particularly the late Dr. B. H. Kennedy and the late Dr. H. A. J. Munro—versions at once exquisitely classical, faithful in the truest sense to the original, and capable of

being enjoyed by educated readers of all nationalities as beautiful poems in themselves. Take, for instance, that lovely ode on "The Crowning of Thomson's Bust with Bays," beginning—

"While virgin spring by Eden's flood
Unfolds her tender mantle green"—

and thus rendered by Munro:

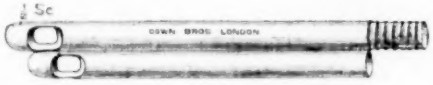
"Virgineus dum veris honor viridantis amictus
Pandet ad Edenii flumina molle decus";

or Dr. Kennedy's "John Anderson, my Jo," as given in the "Sabrinæ Corolla." These are literally faithful to Burns, while to the scholar of any foreign land they appeal as fine original poems. But Mr. Jacks has no room for them and fills page after page with the rhyming Latin—often "as much Latin as Coptic"—from Leighton's monkish volume. "Green grow the Rashes O," as rendered by Father Prout, is infinitely superior to the version by Leighton, who does not scruple when he gets "au bout de son Latin" to interpolate the broad Scotch! Again, why does Mr. Jacks give no specimen of Burns in Greek? Aberdeen University, with its "Flosculi Græci Boreales," edited by Sir W. D. Geddes, could have furnished him with some gems, including the Principal's own admirable Anacreontics. That "Marseillaise of Humanity," "A Man's a Man for a' that," is better in Sir W. Geddes's Greek than even in the German of Herr Ruete. We could have wished, too, that he had presented us with a translation (preferably in German) of the exquisite "Farewell to the Brethren of St. James's Lodge, Tarbolton," which Burns himself for humanity and real spiritual fervour never excelled; but our last word with Mr. Jacks must not be one of reproach. Let us thank him cordially for a most interesting, instructive, well-inspired, and seasonable volume, creditable alike to his scholarship, his taste, and his devotion to literature.

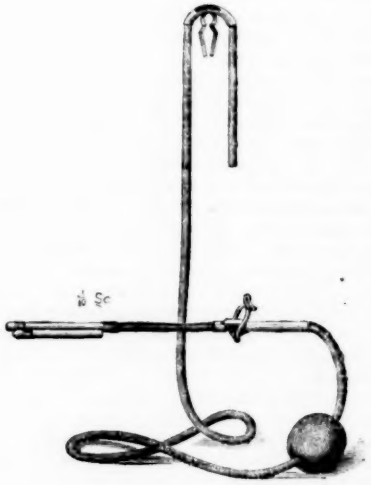
New Inventions.

A NEW IRRIGATOR.

SUBJOINED is an accurate representation of an instrument made for me by Messrs. Down Brothers. In cases in which it is required to wash out the peritoneal cavity I have been in the habit of introducing by the side of the irrigator one or two glass tubes to facilitate the return of the water from the abdomen;



hence it occurred to me to have the two tubes connected and made in metal so that the syphon apparatus could be attached to the longer tube and the shorter one might serve for the return of the water; a considerable amount of time is thus saved. The metal tubes are simply a modification of those known as Lawson Tait's half-inch tubes for washing out the abdomen.



Norwich. T. H. MORSE, F.R.C.S. Eng.

AN IMPROVED COMBINATION SOUND.

THE accompanying illustration shows a sound made at my suggestion by Messrs. Arnold and Sons. The great ease with which it passes and the minimum of pain caused

justify me, I hope, in claiming for it a more scientific adaptation to the urethral contour than those in use. It possesses the following points: (1) it has two curves, the shaft being bent back; (2) the shaft is thinned down, thus preventing grasp by the meatus and needless distension of the entire urethra at one time as with ordinary sounds (3) a more olivary point than those of Professor Lister; (4) bent-back handles, so as to afford an improved hold; (5) a graduation in size of these handles, so that perhaps they may be used directly in rebellious stricture, or (6) that they may serve as dilators of improved shape of the uterine cervical canal, for since, like the urethra, this canal is a transverse slit, it must yield most easily to a force which minimises the area of tension in passing. JAMES MACMUNN.

Finsbury-pavement, E.C.

THE LANCET.

LONDON: SATURDAY, AUGUST 8, 1896.

WE were not far wrong when we discerned in the spirit and temper of the meeting of the British Medical Association last year a new departure. The late meeting of the Association at Carlisle, taken in connexion with the action of the Council in the interval of the meetings and with the special general meeting of the Association at Birmingham, shows that a considerable change has come over the Association itself and the views of its members as to their duties and powers. We perhaps see at present only the beginning of this change; only, in fact, the taking of steps for such alterations in the constitution of the Association as will enable and entitle it to undertake new functions. But already a change in the style and spirit of the meetings is apparent. The essence of this change is in the tendency to magnify the branches at the expense of the influence of the Council and to make the Association one more for the promotion of the personal interests of the profession than of the science on which it rests. The Association, in the language of politics, is to be "reformed"; a definite code of ethics is to be introduced, defence functions are to be undertaken, and the Association is to be used as a lever for raising the whole profession and all the medical authorities. It may be readily admitted that the Association has not hitherto sufficiently asserted its influence in the maintenance of dignified methods of practice. It might have attached conditions to its membership which would have been the best antidote to the evils of wholesale medical sweating on the part of medical aid associations, of commercial companies using medical men to ruin medical practice by the coarsest touting and canvassing, and in various other ways it could have supported its members in their resistance to low forms of practice. The very fact that it is a voluntary combination of medical men unhampered by legal restrictions gives it a freedom and a duty to deal with such questions which bodies that are acting under State authority lack, and are likely to lack. It has admitted all and sundry to its membership without much "deep scrutiny" into their antecedents. In this way an imposing membership has been created which, so long as it acted together and under the guidance of its best and its natural leaders, could not go far astray or develop much difference of opinion; but it will be curious to see how so large a multitude with a diminished control from the centre will deport itself and what action it will demand from its executive.

There are not wanting prophets of evil who say confidently that the Association has reached its zenith and will henceforth decline; that its high notions of reform, its demand for ethics and for making itself into an ethical court, will be followed by ridicule, if not disaster and disruption. We do not take such a gloomy view of the outlook. But undoubtedly if the Association is to be preserved in strength for the promotion of medical science and the preservation of the dignity of medical practice it will have to forget its mere numbers and to weigh heads rather than to count them. It will have to delegate its delicate ethical functions to a committee, which is only another word for a council which it is for the moment the fashion to disparage. We very much question the advantage of the resolution passed at the late meeting inviting the Council to draw up a code of professional ethics. Professional ethics cannot be put into written form. They are essentially "unwritten." To write them would be to spoil them. They are like the aroma of some flowers—an aroma which when concentrated becomes offensive. As we have said, the Association might easily and with advantage express its disapproval of certain gross methods of commerce introduced into medical clubs and otherwise committing medical men to practices which individually they would be ashamed of; but to make the Association meetings an arena for the discussion of minor professional morals would be to degrade it in the eyes of the community and to drive from it those leaders of the profession in all its branches, provincial and metropolitan, whose support and presence have been its strength.

The question of medical ethics cannot profitably be discussed in big meetings. Professional conduct is to be assumed, to be taken for granted. Any departure from it is to be discussed in the domestic and private meetings of the Association and not when it is holding its high festivals. To do otherwise is to discredit the profession in the eyes of the public and to invite those to do the work of censors who are least fit to do it and least likely to do it well. Fortunately time has been gained with regard to the proposals to convert the Association into an ethical court and a body to undertake defence duties. It should be the endeavour of all wise members of the Association to consider how these proposals can be carried out without danger to the peace and the prosperity of the Association. We have never been blind admirers of, or apologists for, the Association. We have recognised, as the most indulgent critics must have done, a tendency to the formation of cliques in its government. We have seen with regret things done by the Council that showed neither judgment nor mercy. But when all this has been said we have to confess to astonishment at the unmeasured language in which the Association and its Council are condemned and in which changes of constitution and function are called for. One member has lately said that "so far the Council has done nothing whatever for the Association." Another flattering member was candid enough to say "that he regarded the British Medical Association as the most hopeless, helpless, and futile organisation ever seen in the world—a huge whale stranded on the sands of time, incapable of doing anything but flap its tail." The best friends of the profession and of the British Medical Association will be most anxious as to the issue of proposals for greatly altering an Association which with all its shortcomings has lasted half a century, has affected legislation, encouraged research, displayed considerable

internal harmony, and drawn to its membership half the profession.

EVER since 1767, when AVENBRUGGER of Vienna first demonstrated the possibility of detecting disease and the boundaries of solid organs by means of percussion either with the finger or a hammer, doubts have from time to time been thrown upon the accuracy of the results so obtained. When GUENEAU DE MUSSY, and after him TROUSSEAU, described the combined method of auscultatory-percussion it was thought that we had a means of perfect and unquestionable precision; but considerable doubts were afterwards thrown on this latter method of physical examination, for it was found that but few persons possessed the acuteness of hearing or had had the requisite lengthy experience to differentiate the delicate shades of sound thus produced. As originally practised the stethoscope was placed on the front of the chest while an assistant percussed the back; but one observer is sufficient if he uses a binaural stethoscope, the chest-piece of which he fixes with one hand while he percusses the thorax or abdomen with a light hammer held in the other. To test the accuracy of such results some observers have mapped out the boundaries of organs on the cadaver, long pins being run in at frequent intervals along the boundary line and left there during the opening of the corpse. Adopting this method, Dr. W. P. HERRINGHAM has come to the conclusion that we derive no information from ausculto-percussion which cannot with greater facility be obtained by the ordinary mode of percussion, and that an observer loses in the former method some valuable information derived from a sense of tactile resistance imparted by the latter means to the finger under certain conditions. Some experimenters have also come to the same conclusion; but, on the other hand, observers of equal authority maintain that the method of ausculto-percussion gives results of far greater precision than the ordinary method, and it is obvious, as they maintain, that the cadaver, especially if the necropsy be not made till some time after death, offers conditions which are not strictly comparable to those during life.

The question has, indeed, come at the present time to be a burning one by reason of the prompt and marvellous effects which certain methods of bath treatment and exercises are alleged to have in diminishing the dilatation of an enfeebled heart. The effects claimed for these methods have thus far depended largely for their verification on the accuracy of observation by means of ausculto-percussion; but, fortunately, there are means looming above the horizon of science which will, it is hoped, settle the question in a much more accurate and efficient manner—namely, the "x" rays associated with Professor ROENTGEN'S name. Dr. JOHN MACINTYRE of Glasgow gave a most interesting demonstration at the recent meeting of the British Medical Association, in which he showed that by the adoption of certain precautions it is possible to obtain very fairly accurate outlines of solid viscera in ROENTGEN photographs. He was led to this conclusion by observing that if a sufficiently strong light from a current of great strength be used, so that the exposure may be rendered extremely brief or, if possible, instantaneous, shadows of other parts besides the bones may be obtained. Moreover, by using a stronger light the distance of the light from the negative may be increased so that the rays are more nearly parallel, and thus the shadow of the organ becomes more uniform in intensity and sharper in outline. In this way he obtained and showed at the meeting several skiagrams which revealed very clearly certain denser portions of the lungs, and the outlines of the human heart with very considerable precision. Thus there exists a reasonable prospect of our being able at one and the same time—by means of life-size skiagrams—to check the accuracy of the different methods of percussion and the efficacy of the new mode of treating cardiac dilatation; at any rate, we can afford to await with patience the settlement of the former of these two questions, and the latter may be decided by other means.

The subject of cardiac failure, however—that is, enfeeblement and dilatation of the muscular wall of the heart,—is one of the highest importance by reason of its frequency and gravity, and the Medical Section of the Association did well to devote a whole morning to its discussion. It is on this condition that the prognosis and treatment in cardiac valvular disease almost wholly depend, and it is on this that the prognosis and treatment of most obstructive circulatory disorders of the periphery may be made to turn. These are the two great groups of causes from which cardiac enfeeblement results; though its treatment need not be very materially modified whichever of the two is in operation. Sir T. GRAINGER STEWART, who opened the discussion in a lucid and judicial exposition of the subject, pointed out that the methods of rest (for severe cases), diet, and medicinal treatment, upon which we had hitherto been obliged to rely, should not be neglected. Nevertheless he, and the majority of those who spoke, expressed very strongly their conviction that we had in the SCHOTT methods a means of treatment which, albeit less readily applicable, was one of very striking efficacy. Until the latter half of this century it was always held that the only way to restore the failing power of the cardiac muscle was by perfect rest; but with the dawn of a larger knowledge of the mechanism of the circulation physicians began to realise what an extremely important part the contraction of the voluntary muscles plays in the propulsion of the blood. When it was realised that the muscles constitute from one-third to one-half of the body weight, and that by their contraction they squeeze the blood out of the soft-walled veins and empty the lymphatics, while they cannot compress the lumen of the firm-walled arteries, it was equally realised that the heart could be relieved of a very large portion of its work by muscular movement. At the present time there are three orders of movements employed to this end. Firstly, passive movements, where the operator moves the patient's limbs, combined with deep massage. This is adapted to very severe cases where any voluntary movement of the patient is attended with severe dyspnœa. Secondly, slow, voluntary movements of flexion and extension on the part of the patient whilst standing or sitting, which in the Nauheim system are gently resisted by the operator. These, combined with baths, constitute the essence of the system of Dr. SCHOTT, who adapted the series of exercises invented by the celebrated Swedish gymnastic instructor, LING, to the purposes of medical treatment. Thirdly, OERTEL'S method, where the patient's movements

are directed to locomotion, such as the slow ascent of hills. The actual and relative value of these methods were the subject of exhaustive discussion last week at Carlisle, but opinion tended markedly to place them in this order of suitability for use in any particular case, and to show that they were applicable to cases ranged in inverse order of severity.

As regards the value of the baths and the means by which they act on the circulation some difference of opinion was expressed, but the weight of authority certainly confirmed their value. It seemed probable, according to most observers, that they act by relaxing the arterioles of the skin directly, and the arterioles of other parts, it was suggested, by reflex nervous action, and that by these means blood was transferred from the venous to the arterial system and its flow accelerated. On the other hand, some of those present went so far as to suggest that the baths only acted through the mind of the patient; but this idea was negatived by the experiments of other observers, and notably by some interesting ones by Sir T. GRAINGER STEWART, which also revealed the remarkable fact that it is the nascent carbon dioxide which is the prime factor in their efficacy. The principal ingredients in the Nauheim warm baths are sodic chloride, calcic chloride, and carbon dioxide in a nascent state. Sir T. GRAINGER STEWART first tried baths of plain warm water, then again with the addition of the chlorides, but still without much effect; finally he added the ingredients which produce nascent carbon dioxide, and immediately the desired effects were produced. It is by experiments such as these, and discussions such as the one we have referred to, that the practice of medicine becomes advanced from the position of an empirical art to that of a rational science, and this debate deservedly proved to be one of the most interesting and attractive portions of the meeting.

THE joint article by Dr. HERMANN WEBER and Dr. MICHAEL FOSTER upon "Climate in the Treatment of Disease," which appears in the first volume of Dr. CLIFFORD ALLBUTT'S "System of Medicine," is a very careful piece of work and gives probably the best summary of the subject at present available. We propose to indicate some of the principal views of the writers which serve to "mark time" in this department of practice—a department beset with great and peculiar difficulties. Exact knowledge and definite therapeutic rules are more difficult of attainment in climatology than in most other branches of medicine, owing to the complexity of the phenomena involved, the vast range of the facts which must be passed in review, and the comparatively recent growth of systematic attention to the subject. But the importance of the subject is great and growing. The writers of the article in question remark very justly that "in former times climatic treatment was almost limited to diseases of the respiratory organs, but at present we know that the treatment of almost every chronic deviation from health may be assisted by judicious change of climate." What is required is more precision in the choice of localities and a juster appreciation alike of the potentialities and the limits of climatic therapeutics. The patient who expects that change of climate is all that is required to cure his malady, and the practitioner who recommends a given climate in a haphazard way and on mere general principles, represent two opposite types of error on this subject, which a wider and juster knowledge will serve to dissipate.

Naturally the case of phthisis first presents itself for consideration owing to its pre-eminent importance and to the fact that it has received more study and attention than that of other diseases. The selection of a suitable climate for a phthisical patient is, as the writers truly say, "often one of the most difficult problems with which the physician is confronted." This arises not so much from the obscurity of the subject as from the fact that our choice of climate is so often circumscribed by extraneous considerations, such as the poverty of the patient, the necessity of selecting a locality where facilities exist for earning a livelihood, the difficulties of securing suitable accommodation, congenial surroundings, and proper companionship. A locality theoretically desirable on meteorological grounds may be too inaccessible, or the hotel accommodation may be inferior, or there may be a complete lack of civilised society, occupation, and amusement; we cannot afford to neglect any of these considerations, but it is obvious that they serve to complicate the subject to an indefinite extent. In any case of phthisis calling for climatic change we should first consider whether the high altitudes are likely to be suitable. Dr. WEBER and Dr. FOSTER are of opinion that "early cases of either unilateral or bilateral phthisis in young and fairly vigorous persons in which the disease is of a limited character and the pyrexia moderate should be sent to the Swiss Alps in preference to any other resort. In young persons a sojourn of one or two years in the Alps will probably not only arrest the disease, but so establish the constitution that the patient may cautiously resume his occupation at home." We believe this to be a sound rule, though we should be disposed to express the prognosis in such cases a little more guardedly. Disappointments are frequent, but the general results are undoubtedly good and often surprising. We are entirely in accord with the writers with regard to the succeeding paragraph: "In the early days of high altitude treatment a history of hæmoptysis was looked upon as a bar to the employment of the climate; the reasons for this belief were mainly theoretical, and a more extended experience has shown that the very reverse is the fact and that hæmorrhagic cases do particularly well there." The confusion which has existed in the profession with regard to this subject is regrettable. There are still some who teach that hæmoptysis is a bar to the sea voyage just as it was formerly regarded as a bar to the mountains, the one opinion being as unfounded as the other. The true view seems to be that existing or very recent hæmorrhage precludes change of climate altogether, but that past hæmorrhage is no bar to the sea voyage or the mountains. It may even in a guarded and limited way be held to be an indication for the mountains, but the problem will generally be better decided on other grounds. The writers also recommend the mountains in limited and quiescent cases of the third stage of phthisis, and in cases that have arisen out of, or are complicated by, pleurisy. The chief contra-indications to the mountains are held to be albuminuria, degenerative disease of bloodvessels, ulceration of the intestines, advanced

laryngeal mischief, especially perichondritis and ulceration of the arytenoids, active tuberculisation, extensive destruction of lung tissue, constitutional erethism, and advanced age. These, we believe, are thoroughly sound rules. Colorado is recommended as possessing a climate "little, if at all, inferior to that of the Swiss Alps," and affording ample opportunities for the earning of a livelihood. "Young subjects, the children of tubercular parents, not themselves tubercular, but for whom a change of climate is thought advisable as a prophylactic measure—as, for instance, after a pleural effusion—will do better in Colorado than elsewhere." Australia is recommended in cases of early consolidation in which there is no fever and in quiescent cases where excavation has ceased to progress. Similar rules hold with regard to South Africa, but it must not be forgotten that in that country nearly all the favourite resorts are at a considerable elevation (from 2000 to 4000 ft.), whereas most of the Australian plains (the Darling Downs are an exception) are at a low elevation. We have little doubt that when the accommodation is improved South Africa will hold a leading place as a sanatorium. At present only the hardier type of patient should be sent thither. The cases suitable for Egypt are thus enumerated—(*a*) cases complicated by bronchitis in which emphysema is also present; (*b*) cases of bronchiectatic phthisis which have already spent a winter or two in the Alps; (*c*) cases for which the Riviera is too cold; (*d*) cases of early consolidation in which for some reason the Alps are contra-indicated; (*e*) cases with albuminuria in which the destruction of lungs is not very great; and (*f*) cases in which insomnia and nervous irritability form prominent symptoms. The leading contra-indications to Egypt are intestinal ulceration or a tendency to diarrhœa, laryngeal ulceration, and the early occurrence of acute pneumonic symptoms. The Riviera is recommended for cases which find the Alps too cold, for cases complicated with catarrhal pneumonia or bronchitis, and some forms of laryngitis. Madeira may be tried where there is much irritability of mucous membranes or emphysema. The sea voyage is useful (*a*) where phthisis is part of a general breakdown from overwork; (*b*) in cases of limited consolidation without fever; and (*c*) in some cases where cavity-formation is not extending. The contra-indications to the sea are laryngeal and intestinal complications, debility, and fever. We forbear from criticising the above rules from want of space, but at least in the main we can fully endorse them.

We now turn to the cases of other diseases, for which the rules are easier and less complicated. Bronchitis in young persons is often benefited by the mountains, but in elderly persons the Riviera, Egypt, or the Canaries will be found more suitable. Where there is irritable cough without expectoration Madeira, Pau, Arcachon, Torquay, or Queenstown may be tried. Emphysema calls for dry and warm inland or coast climates, or if attended by dry cough the resorts just enumerated for bronchitis will be found suitable. Asthma too erratic a disease to admit of definite rules. Young subjects are often benefited by a stay in the Alps. Senile patients may try Egypt or the Riviera. Many asthmatics do best in large towns. "Scrofula"—i.e., lymphatic tuberculosis—is notably benefited by a bracing marine resort and sea voyages are also useful. Gout and rheumatism demand warm and dry inland climates or fairly warm sea-shores. Warm and dry climates are useful, also, in renal and vesical diseases. Dyspepsia is often signally benefited by change of climate, but precise rules are difficult to formulate. Dry, elevated regions and warm, inland climates will be found suitable in different cases. Nervous affections will often be influenced favourably by climate, change, and travel. We must demur to the recommendation which Dr. WEBER and Dr. FOSTER make of sea voyages in hypochondriasis, at all events in its graver forms. On the whole, where there is either much excitement or much depression sea voyages are contra-indicated. The mountains are also, on the whole, unsuitable for most cases of nervous disorder. Sedative localities, like Pau, or moderately bracing localities, like Malvern or Ragatz, will suit different cases.

We conclude with the paragraph in which Dr. WEBER and Dr. FOSTER sum up the characteristics of the climates of England. "We must acknowledge that the climates of England are rather moist, that the air is often dull and sunless, that rain falls on comparatively many days and is distributed over many hours, that the wind is often high and chilling, and that the shelter is limited. On the other hand, the hygienic conditions are better than anywhere else, the food is good, and the separation from the family is less. The climates of England belong to the most health-giving climates for the fairly vigorous, but are less good for the delicate invalid. If, however, a delicate person is obliged to stay at home or near home it is often possible for him by judicious management to obtain great benefit by availing himself of all the advantages and defending himself from the injurious influences of the home climates."

AN inquest was recently held at Chelsea touching the death of Miss F. T. HANDFORD, who died aged thirty-four years after having miscarried. On June 25th, 1896, she consulted Dr. C. J. HARRISON, who prescribed for her for anæmia. She then said, "If I tell you a secret will you keep it?" and upon Dr. HARRISON replying in the affirmative she mentioned that she was pregnant. Upon July 8th she went again and suggested that Dr. HARRISON should procure abortion for her. This he absolutely refused to do and dissuaded her as strongly as possible. On a subsequent occasion she repeated her request with the additional inducement of a blank cheque. Dr. HARRISON again refused, and upon July 22nd Miss HANDFORD arrived at his house looking very ill and fainted in the consulting-room. As she was obviously very ill and had profuse hæmorrhage Dr. HARRISON allowed her to remain in his own house and communicated with her friends.

The cousin of the deceased arrived, and later in the evening the patient asked the nurse in attendance to write a statement for her, in which she said that Dr. HARRISON had refused to bring on a miscarriage, so "this morning feeling desperate I went to a doctor in ——— town—his name I refuse to mention—and he did something to me and told me that I should be all right, and as I walked towards home I turned faint and decided to go in and see Dr. HARRISON before going home, and he allowed

me to lie down; but I grew worse and fainted, and it was decided I should stay here all night." On the day following the deceased had a miscarriage, but went on well up to Friday, July 24th, when the temperature went up. Dr. HERBERT SPENCER and Dr. BRADFORD saw her and considered her fit to be moved to Cheyne-walk, where she died upon July 27th. Mr. A. J. PEPPER, who made the post-mortem examination, said that the deceased had nephritis. The uterus was healthy, but abortion had recently taken place. The cause of death was uræmia from nephritis aggravated by the abortion. At the adjourned inquest on Wednesday, Aug. 5th, a verdict of "Wilful murder against some person or persons unknown" was returned, the jury adding: "We wish to take some appreciative notice of the unselfish and Christian humanity of Dr. HARRISON."

This is a very sad and very familiar story. We believe we are right in saying that the procuring of abortion otherwise than for reasons which can be medically justified is banned by the civil and ecclesiastical law of every civilised country, and as constructive murder it is right it should be so. But the whole question teems with difficulty. It certainly appears unjust, and very possibly is actually so, that a woman who driven and harassed by shame and fear resorts to the questionable remedy of abortion should be liable to severe punishment, while the man who is equally responsible for the child goes free. Of course he is not responsible for the criminal act of the woman; but he is morally responsible in so far as he shared in bringing about the condition which made her resort to crime, and morally he is guilty, although we fail to see how he can be made legally accountable.

Annotations.

"Ne quid nimis."

A STINTED WATER-SUPPLY.

"WE trust that the serious complaint of deficiency of supply in the East-end of London, to which illness and even fatal results were attributed and which was the subject of inquiry last season, will not have occasion to be reiterated this year." This was an expression of hope which we made in our issue of July 18th, in an annotation on drought based on a circular sent out by the East London Waterworks Company to its consumers on July 13th. If we are to accept newspaper statements the same serious complaint then referred to has been reiterated with renewed vigour and with apparent justification. As to how far, however, such headings as "A Shocking Story," "Children dying for want of Water," "Hatching Disease," and "Scenes and Incidents in the Tortured East," are warranted by the circumstances of the case we have our doubts. In any case we strongly protest against the wholesale spreading of what is probably unnecessary alarm in this indiscriminate way. This protest is quite apart from the question as to who is responsible for the inadequacy of the supply. There is no doubt that the supply of water to London is seriously short at the present time, and an uncontrollable factor has been responsible for it—namely, the continued absence of rain or, in one word, drought. As we have before urged, the only resource that can provide against this emergency is increased means of storage both at home and at the waterworks. In the case of the East London Water Company and some of its most crowded districts in the East-end neither provision has been made, with the result that the company have been compelled to restrict their output and many consumers have been without water because they had no means of storing it when it was available. The company's line of defence is based on these facts, and when consideration is given to the fact also that the company were unable some few years ago to provide additional storage on account of the interference of the London County Council we fail to see how reproach can be justifiably levelled against them. It at least must be admitted that they are doing their best under the circumstances. They were aware of the enormous waste of water for garden and other purposes consequent on the continued absence of rain, and their endeavour to put a stop to what was thoughtless and indiscreet conduct in view of a drought took the form of a circular announcing that the supply would be turned off between certain hours. Even with this restriction the secretary of the company declares that there are being pumped into the mains fully thirty gallons per head of the population. And to help those who have no adequate means of storage the company, we learn, are supplying capacious jars, and, further, they are seriously considering an offer from the New River Company to augment the supply by some 3,500,000 gallons daily. We repeat, the whole question is one of adequate storage both in the house and at the company's works, and it is in this direction that pressure should be brought immediately to bear if the evil effects of a water famine are to be avoided. It is already reported that children have sickened and died owing partly to the supply of water not being sufficient to clear and flush the drains, and partly to the bad quality of the water supplied. We possess here a strong argument in favour of an independent supply of water not of the purity demanded for drinking purposes, but which will serve equally well to clear and flush the sewers. Such would be supplied by the scheme of a sea-water supply for London, and millions of gallons of highly purified water, which it seems preposterous to use for the mere conveyance of human excreta, would be saved for drinking purposes. In the meantime we would suggest that the sewers should be flushed with a strong deodorant and disinfectant, and no more effectual thing could be used for this purpose than electrolysed salt water. If it be true that the water supplied is of execrable quality, so as to be thick and muddy, it will be especially interesting to study the next returns of Messrs. Crookes, Odling, and Frankland dealing with the quality of the supply at the present time. In regard to going further afield for water—as, for example, to Wales—it is a fact worth consideration that the drought there this year has been felt just as keenly as in other parts of the country, with the difference, however, that owing to the character of the geological strata, which is absolutely non-porous, there is no reserve, and the streams are reduced to small pools here and there connected by shallow and narrow channels. There is every reason to believe, however, that the meteorological conditions are not so persistently steady as they were, and already we have had the opportunity of welcoming some moderately heavy showers during the last two weeks.

RAILWAY DEATH TRAPS.

IN looking over the instructive Blue-books which yearly give the number of accidents reported to the Board of Trade by the several railway companies in the United Kingdom the reader must be struck with the fact that quite a large number of the accidents might have been prevented if proper precautions had been taken by the respective companies. Among this class of accidents not the least noticeable are those which occur at level crossings, and it is lamentable to read of lives being lost from a cause

which in the majority of cases is due to the questionable economy of the railway companies. The return to the Board of Trade for the year ending 1893 gives the number of passengers killed while passing over level crossings as 55, and the number of injured as 30; the return for the year ending 1894 gives the number of killed as 80 and the number of injured as 31. Compared with the total number of accidents which occur on railways throughout the year from all causes the percentage from this particular cause is small, but when we consider that a little expenditure on the part of the companies would prevent such accidents altogether the question of number has no bearing on the case at all. Railway companies, like other business concerns, are run for profit and they should be compelled to carry on their business with the least possible danger to the public. We are led to make these remarks from what might have been a serious accident to the passengers who travelled by a South-Eastern express to Hastings on Wednesday, July 29th. Close to Etchingham the driver of the train noticed a traction-engine, which had broken down on a level-crossing and was consequently blocking the line. Fortunately, he was able to pull up in time to prevent serious accident to the passengers, the only damage being the wrecking of the traction-engine and injury to the locomotive. A lamentable result might have ensued had it not been for the presence of mind of the locomotive driver, but if the accident serves to direct public attention to the death-traps which are to be found all over the kingdom and pressure is brought to bear on the companies in consequence much good will result If it is not possible to erect a bridge or build a subway—we believe that it is—at these places at least some means might be taken to warn pedestrians and drivers of vehicles in addition to the almost useless board which bears the legend, "Beware of the trains." For instance, it would be surely possible in these days of electricity to cause a bell to ring at a level crossing while a train is approaching from a considerable distance, and warning might even be given to the driver of the train that something was on the level crossing which he was approaching. The better way, however, would be to do away with level crossings altogether by substituting either a bridge or a subway.

MEDIÆVAL MEDICINE.

MR. RASHDALL'S article on "The Universities of the Middle Ages" in the *Edinburgh Review* contains some facts of interest to medical readers. There has been much controversy as to the precise way in which the teachings of Hippocrates and others were conveyed to the modern world. Gibbon's theory is well known—viz., that "the treasures of Grecian medicine had been communicated to the Arabian colonies of Africa, Spain, and Sicily, and in the intercourse of peace and war a spark of knowledge had been kindled and cherished at Salerno." On the other hand, Mr. Rashdall is of opinion that the Saracens "had as little to do with the revival of medical science at Salerno as with the revival of legal science at Bologna." There seems no reason to doubt, however, that the Saracens translated Galen and Hippocrates and revived the study of medical science, these Arabic versions becoming in turn the basis of Latin versions, which served to revive the study of these writers in Western Europe. Saracen influence in Southern Italy was very potent in the tenth and eleventh centuries, and Gibbon is probably justified in attributing to it no small share in the rise and fame of the great medical school of Salerno. Montpellier is the next great seat of medical science of that epoch, and happily still preserves something of its ancient renown. Its origin is wrapped in much obscurity, but there is a traditional belief that its medicine was derived from Jewish or Arabic sources, and according to some authorities it was an offshoot from Salerno. "To suppose," says Mr. Rashdall, "that the medical school at Montpellier was founded by disciples of Avicenna or Rhazes is quite inconsistent with what we know of the early traditions of the school. But it is quite conceivable that the earliest copies of Hippocrates and Galen studied at Montpellier may have been brought there by Saracens, or more probably Jews, and it is practically certain that they were, with very few exceptions, translated from Arabic versions." One of the most interesting questions to the student of medical history is the problem, How far did the Saracens originate anything in medicine, or did they simply preserve and hand on to the modern world the tradition of Hippocrates and Galen? The latter view now finds many adherents, but even if it be accepted our debt to the Arab physicians and philosophers remains a large one. Toulouse follows Montpellier, but although it adopted the natural philosophy of Aristotle it did not rival its neighbour in its achievements in medicine. The University of Paris began its great career about the same time, and in view of its subsequent development it is curious to read that at first it forbade the teaching of the revived Aristotelian philosophy. Prague, Vienna, Oxford, and Cambridge come later and preserve the succession of university life. The origin of Oxford as a university is involved in considerable obscurity, but it goes back at least to the time of Richard I.

THE ARMY MEDICAL STAFF.

THE unsatisfactory state of the medical department of the army and its unpopularity at the medical schools and in the medical profession have recently been made the subject of a leading article in the *Times* and continue to engage the attention of the War Office authorities. Lord Wolseley paid his first visit since his appointment as Commander-in-Chief to Netley on July 31st. It was confidently expected that his lordship would say something about the present state of the medical service and what was proposed to be done, but he made no allusion to the subject. Lord Wolseley contented himself with eulogising the devotion and heroic conduct which medical officers had so frequently displayed, citing in illustration some well-known and striking instances that had occurred within his own knowledge. Lord Roberts has also recently spoken in very generous terms of admiration of medical officers, and dwelt upon the great importance of securing the best men that could be got for the Army Medical Staff. Meanwhile the fact remains that the army is so little popular with the medical schools and profession that it fails to attract a sufficient number of candidates to fill its vacant appointments. The *Times* thinks that it would be quite practicable to have a combination of the advantages of the regimental and departmental systems which would go a long way towards restoring the popularity of the service, together with an increase of its usefulness. Seeing that a medical officer, under the present system, is always attached to a regiment in the field in time of war, there does not seem to be any reason why this should not be the case in time of peace. It has always been alleged that there are financial objections to this being done, but there can be no doubt that it would be a popular measure with officers commanding corps and that it would be attended with social and other advantages to the medical officers concerned. It would bring the medical and military officers more together and would probably tend to harmonise and strengthen their relations with one another. We have so frequently and so recently adverted to the present state of the medical service that there is no need to dwell at any length upon the subject now. Apart from any so-called sentimental grievances there are surely several very real grievances of which medical officers have to complain. To

mention a few of these: the life of a medical officer is virtually one of expatriation owing to the shortness of service at home, and the frequent changes of station and duty to which medical officers are subjected are not, moreover, at all for the good of the service generally; the rates of pay for India require to be re-adjusted, especially as by the introduction of the station hospital system in that country the Indian Government saved a large sum of money and the duties and responsibilities of medical officers serving there were greatly increased; the opportunities for study at home on return from foreign service and the incentives to scientific and professional work also require to be increased; and the position held by medical officers in the army must be a recognised and adequate one both socially and officially. Medical officers consider that their service should be formed into a corps under some such designation as a Royal Corps of Surgeons or Royal Medical Staff Corps. It seems to be generally believed that the War Minister is about to introduce some radical changes to be embodied in a new warrant for the medical service, and we think that the time has come for something of the kind to be done.

WHY IS NEWCASTLE THE MOST DRUNKEN CITY OF ITS SIZE IN ENGLAND?

IN his recent evidence before the Committee on the Licensing Laws Mr. J. R. Roberts, clerk to the magistrates at Newcastle-upon-Tyne, begged this question and answered it in a convincing manner. Because, he said, the number of public-houses is excessive, wages are high, and the climate bad, but principally, in his opinion, because of the drinking habits of the people. No more competent or unprejudiced witness than Mr. Roberts could be called from Newcastle, but his evidence hardly explains the amount of drunkenness in Newcastle. Why do the people drink more in Newcastle than in other similar towns, Glasgow or Liverpool for instance, if indeed they do? Many people drink a good deal who are never drunk. The number of persons proceeded against for drunkenness in Newcastle is undoubtedly very large, but this by no means proves that the amount of drunkenness is in excess of what is found in other large towns. The amount of serious crime in Newcastle is certainly considerably below what is met with in other similar northcountry towns. It is often said that Newcastle is the most drunken town of its size in England, but it does not follow that it is so; at any rate, the amount of crime does not support the oft-repeated assertion—the libel, as many think, on the fair fame of the city.

CYCLING AND RUPTURE OF THE PANCREAS.

A VERY interesting case of Rupture of the Pancreas in a boy nine years old is reported by Dr. B. F. Hadra of San Antonio, Texas, in the *New York Medical Record* of July 18th. The patient was riding down a hill and was struck by the handle-bar against the epigastrium. He fainted and vomited, but rallied in a short time. In five hours he began to suffer severe pain, which was relieved by opiates. He improved slowly, but did not regain his usual health. His chief symptom was excessive and perverted appetite. He would, for example, eat six or eight boiled eggs and detested table salt, &c. In about three weeks a swelling in the epigastrium was noticed by his mother. On examination by Dr. Watts an accumulation of fluid behind the stomach was felt, which latter stood out in high relief with well-defined borders, resting on a dull area which extended on the right side to the angle of the ninth rib and on the left side into the thorax, so that the area of dulness over the liver and spleen was continuous with it. Also the transverse colon could be easily recognised by its prominent contour. Between it and the stomach was a zone of about one inch in width giving a dull percussion sound. The temperature was between 98·8° and 99·2° F. A pancreatic rupture with leakage into the cavity of the lesser omentum was diagnosed. An incision was made by Dr. Watts in the abdomen so as to hit the interval between the stomach and the transverse colon. From the dull area about a quart of clear limpid fluid was obtained, looking like the white of egg and entirely free from blood. "The internal lining of the sac was smooth, shiny, and obviously constituted by the endothelial layer of the lesser cavity of the peritoneum" The fluid was found to be alkaline and readily changed starch into sugar. There were one or two hitches in the patient's recovery; but in the end he recovered perfectly, although with a slight threatening of ventral hernia.

DETECTION OF THE TYPHOID BACILLUS.

SINCE the claim of Eberth's bacillus to be the specific microbe of enteric fever has been established beyond the possibility of doubt by its constant presence during the course of that disease in the substance of Peyer's and the other glands of the intestine and in the spleen, as well as in the urine in the later stages when it is being eliminated from the system and in the evacuations under no other circumstances, chemists and amateur microscopists have not hesitated to express decided opinions as to its presence or absence in samples of suspected water or milk supplies. But there is good reason to believe that in many instances the bacillus coli has been mistaken for it and that, on the other hand, the negative evidence based on the failure to discover it is of very little or no value. There is really no difficulty in the differentiation of the two if the proper means be taken, though conclusions drawn from mere microscopic observation are in the highest degree unsafe. The typhoid bacillus is, of course, always associated with an infinitely greater number of bacillus coli as well as others, but these and other sewage or fæcal organisms can be separated from the remaining 90 per cent. by their power of growing in a 500 per cent. phenol gelatin. Among those that are not thus eliminated the bacillus coli and Eberth's bacillus alike form discoid colonies, large on the surface where air has access to them and small—mere specks—in the deeper parts of the gelatin, and both secrete an acid reddening gelatin to which a little litmus has been added. But the points of difference are the larger size of the colonies of bacillus coli and their yellow brown colour, those of Eberth being white, and the growth of the former is far more rapid, as is well seen in watching the progress of simultaneous stab cultures for a few days. Even more characteristic of bacillus coli are its power of coagulating milk, the evolution of gas (CH_4), and of forming indol in broth gelatin as shown by the red colour produced on the addition of a few drops of commercial nitric acid—none of these properties being possessed by Eberth's bacillus. These are sufficient, but under higher powers the individual bacilli present differences of form, those of bacillus coli being short and thick—sausage shaped—and Eberth's appearing as true rods, while with a special staining process the former are seen to have but few flagelli and the latter many and long. There is a bacillus—bacillus fecalis alkalinus—which closely resembles Eberth's in morphological and other characters, but which generates an alkali, imparting a blue colour to gelatin reddened with litmus, and another—a sewage variety of proteus Zenkeri—which evolves gas, but, besides not having the power of forming indol or of coagulating milk, it liquefies the gelatin, which the bacillus coli does not; the gas bubbles, therefore, instead of adhering like beads along the line of the stab, rise upwards and collect as a larger bubble at the apex of the cavity formed by liquefaction in the gelatin. With proper precautions the demonstration of the presence of the specific pathogenic organism in the evacuations of a suspected or doubtful case of enteric fever is thus comparatively

easy, but it is quite another thing when the observer has to deal with a water or milk supply suspected of being contaminated. It is obvious that the initial addition of typhoid bacilli must be infinitely less than that of the associated bacilli coli, to say nothing of others, and when others have been eliminated by means of phenol the fact remains that the bacilli coli multiply at an enormously more rapid rate than those of Eberth which they crowd out, if, indeed, the latter do not of themselves tend to extinction under the influence of daylight. The failure to identify them is, therefore, no evidence of their absence, still less of their not having been present at an earlier period. The best culture medium for typhoid bacilli is an acid potato gelatin, but we know of no means of encouraging their growth which will not at the same time favour the more rapid multiplication of the bacillus coli. Even with streak cultures on the surface of large plates of solid gelatin by which the colonies are most sparsely distributed, Dr. Andrewes and Mr. Parry Lawes, when dealing with the undiluted sewage of a wing of the Eastern Fever Hospital containing forty typhoid cases, succeeded in detecting them in a small minority of the plates, and Dr. Klein had still greater difficulty in samples of milk inoculated with artificial cultures; while at Worthing only two or three colonies were found in 1200 c.c. of water taken direct from the polluted well, and none in 2400 c.c. of the same water from the mains, though there was no doubt as to the bacillus having been the cause of a widespread epidemic of over 300 cases.

A DAY IN THE COUNTRY.

EVERY year as the summer comes round the contributions of the charitable are solicited in heartrending terms towards "giving the little ones a breath of fresh air." This sounds very well, but what it really means is that the children are taken out for one day, stuff themselves with various abominations, and return worn out, cross, and weary at the end of the day. We are absolutely certain that one-day treats are harmful, and the money spent upon them by managers and children might, if directed into wiser channels, give far better results than it does at present. That admirable institution, the Children's Country Holidays Fund, sends the recipients of its charity into the country for a fortnight, and an excellent holiday this is. The day treat, besides being provocative of harm to the children, is the cause of an amount of lying and hypocrisy on behalf of parents which is inconceivable. We ourselves know a poor quarter of London in which within a radius of under half a mile are several Anglican churches, some ten dissenting chapels, including a Swedenborgian and a "Christian" Unitarian chapel, sundry Gospel Missions, and a synagogue. We know, or knew some six years ago, some parents who sent their children to all the schools attached to the various denominations we have mentioned "so that they could go to the treats."

"THE MATRIARCHAL FAMILY SYSTEM."

MR. E. B. TYLOR'S article in the *Nineteenth Century* on "The Matriarchal Family System" contains much interesting matter. He points out how, in opposition to the generally received theory that the primitive family life was of the patriarchal type, certain writers, such as J. F. McLellan and the Swiss jurist Bachofen, sought to prove that there was a stage in social development in which paternity was not recognised as a social tie, but maternity furnished the only relation on which kinship could be founded and the family held together. This theory has not held its ground, but it remains true that there have been peoples amongst whom descent was reckoned on the mother's side rather than on that of the father—i.e., where the matriarchal rather than the patriarchal system has prevailed, membership of the family and clan, succession, and inheritance being framed on the line of the mother. Mr. Tylor is of opinion that the usual view, that the patriarchal system had the priority in point of time, is the correct one. "However the human race may be classified in stages of culture, whether from the lower to the higher stone age and thence on to the bronze and iron ages, or from savage life supported by wild fruit or game to agriculture and pastoral prosperity, or from the condition of the roaming family to that of the settled nation, the paternal system is to be found in strong if not exclusive prevalence." Within the historical period the paternal system is generally taken for granted and any departure from it is noted as extraordinary. Thus Herodotus mentions as a singular and remarkable fact that among the Lycians descent was reckoned on the female side; and Montesquieu remarks that it is almost everywhere received that the wife passes into the family of her husband, and mentions as exceptional that in Formosa the husband goes to the wife's. Among the Malays of to-day the maternal system largely prevails. The husband abides in his own home and is a visitor in the house of his wife. A man's brothers and sisters and sisters' children are the heirs to whom—not to his own children—his property will go when he dies. The mother's elder brother is guardian of her children and the brother of the eldest grandmother is the "mamak," or ruler, of the whole family settlement. The clan of families is held together by descent on the mother's side, and the law of exogamy, forbidding marriage between men and women of the same clan, prevails. In Formosa the bridegroom goes to the bride's house, of which he becomes the support. Thus the Formosans "set no store on sons, but aspire to have daughters, who procure them sons-in-law to become the support of their old age." The Kasia of North-East India have similar customs. The bridegroom takes up his abode in the house of the bride, and in case of divorce the children belong to the mother. Laws of rank and property follow the strictest maternal type. The sister's son succeeds to rank and is heir to the property. Among a neighbouring tribe, the Garos, some singular marriage customs attest the existence of the maternal system. "When the Garo youth," we are informed, "has been invited by a girl to a preliminary courtship, which he cannot easily decline, then follows the wedding day. On that morning the custom is for the bridegroom to hide and for the bridesmen to seek him. When found they wash him and lead him away, weeping as he goes, to his new home with his mother-in-law." In the Pueblo Indian district, on the Californian frontier, large families live together in which "the mothers are related together in the female line, and therefore of course belong to the same clan, and their children after them. The fathers are not bound together by such ties, and need not be of the same clan, only they must not be of the same clan as the wives." Among the Iroquois, Cherokees, the Arawats of South America, and the Pelew and Mortlock Islanders of the Pacific similar customs prevail. There would seem to be a close relation between the maternal system and exogamy. We cannot pursue the subject further, but those of our readers who are interested in it may be referred to Mr. Tylor's article, which is worthy of his reputation as one of the most distinguished of living anthropologists.

FOOLHARDY ENDURANCE.

MR. W. S. GILBERT once described a secret society (the Tamorra) whose motto was "Heroism without risk." That there exist those whose motto is apparently "Risk without heroism" is apparent from an account which has appeared in the daily press of two young Norwegians who rowed in an open boat, having no sails, mast, or rudder from New York to Scilly. They accomplished this feat in fifty-five days,

one rowing—or rather sculling—while the other slept. We may admire the doggedness with which they pursued their self-appointed task, but we may well ask to what purpose was the expedition undertaken. No one has benefited by it, no new light has been thrown upon any subject whatever by what these men have done, and such a risking of human life for no good purpose is certainly not commendable.

DEATH OF SIR WILLIAM ROBERT GROVE, F.R.S

A VERY highly respected member of the old school of science passed away on the 1st inst., at his residence in Harley-street, in the person of Sir William Grove. He was one of the oldest Fellows of the Royal Society, and was, we believe, one of the founders of the Chemical Society, which is, perhaps, the most flourishing and prosperous daughter of the Royal Society at the present day. Sir William Grove was a distinguished member of the legal profession, being called two years later after he had graduated as Master of Arts at Oxford to the Bar at Lincoln's Inn, but on account of ill health he turned his attention to the study of electrical science, which at that time was in a very crude state. It was in 1839 that he announced the discovery of the battery which bears his name, which was constructed of a porous cell containing a pole of platinum immersed in nitric acid and an outer cell containing dilute sulphuric acid with a zinc cylinder as the positive element. Fellows of the Chemical Society will remember his interesting address on the history of the society, which he gave on the occasion of its jubilee a few years ago. He possessed many coveted distinctions and was knighted in 1872 soon after his elevation to the judicial bench, which office he held till 1875, when he became a judge of the High Court of Justice. He was President of the British Association at Nottingham in 1866.

SANITARY ADMINISTRATION IN NEW JERSEY, U.S.A.

NEW and greatly improved relations have, we learn from the last annual report, been recently established between the local sanitary authorities of this district and the State Board of Health, but it is clear that these relations will have to be still further developed before it can be said that the sanitary administration in this State is complete. The notification of infectious diseases is one of the most important steps that has recently been taken, and, besides certain of the diseases notifiable in this country, yellow fever, plague, leprosy, and trichinosis are also added. A list of the notifications sent to the local boards has to be transmitted weekly to the State Board of Health. Efforts have recently been made to persuade the Legislature to provide a central laboratory of hygiene, but upon this request being refused several public-spirited citizens came forward with the necessary funds. The building is now erected, and the postal authorities of the United States have been asked to modify their order which prohibits the transmission of bacteriological specimens by post. Dr. Henry Mitchell, the able Secretary of the State Board, reports that outside the larger urban districts, local sanitary administration is making but little progress, and it is suggested that four "advising sanitary inspectors" shall be attached to the State Board to supervise and advise the local sanitary authorities. Few townships have, the Secretary states, ever closed a polluted well; and the spread of enteric fever by milk proceeds because the cans are washed in filthy water, and because the milk is adulterated with such water. Isolation of infectious disease is but rarely carried out, and proper sanitary inspection in the sense understood in England seems to be for the most part wanting. The officers who are entrusted with the carrying out of the sanitary Acts are themselves not familiar with the principles of hygiene, and until long-term appointments and a "living wage" are made accomplished facts but little progress will, the Secretary thinks, be made. We note that an Act approved during 1895 makes it the duty of local boards to secure skilled professional attendance in cases of ophthalmia and thus to assist in the prevention of blindness. The pollution of the Passaic River is a matter which seems to call loudly for the formation of a joint rivers' board to deal in an adequate fashion with the districts along its banks which contribute untreated sewage: the city of Patterson, with a population of 100,000, is one of the chief offenders. Vaccination in New Jersey is in a by no means flourishing condition and some local boards report that no vaccination in their districts has been performed during the last six years. It seems that the school boards are empowered to prohibit the attendance at school of any unvaccinated child and further to decide how far revaccination is necessary, but these bodies have apparently been even more neglectful of their duties than have the guardians of this country. The State Board has, we note, been doing useful work by inspecting the hotels at health resorts in order to prevent these places from becoming centres of infection and ill-health. Endeavours are obviously being made by the New Jersey State Board to bring about a better condition of affairs in the State, but it seems to be a somewhat uphill work.

WATERING-PLACES AND INFECTIOUS DISEASE.

As in previous years, the Registrar-General inserts in his recently issued return for the second quarter of 1896 a special table which shows the mortality during that period from the more prevalent infectious diseases in each of the principal seaside resorts and other watering-places of England and Wales. We notice that the list of these towns has recently been extended considerably, and that it now includes 78 watering-places—namely, 69 seaside and 9 inland towns. Inasmuch as every health resort of importance is contained in this list, those of the public who are contemplating a visit to the seaside with their families may readily ascertain how far the ordinary inhabitants of the place they select are free from infectious disease. A glance at the list will suffice to show this, and we doubt not our readers will avail themselves of the Registrar-General's Table VIII. and advise their holiday-seeking patients accordingly. The return (No. 190) can be procured from Messrs. Eyre and Spottiswoode or through any bookseller for the sum of 9*d*.

MEDICAL CERTIFICATES AND THE LONDON SCHOOL BOARD.

THE London School Board has travailed and brought forth what we may call an acephalous monster. At its last meeting upon July 30th the following resolutions were adopted:—

1. That in cases of children in respect of whom a medical opinion is required, but in which no medical certificate is produced, or in cases where the magistrate or the justices of the peace is or are dissatisfied with the certificate furnished, the system now in operation be continued.

2. That in cases of children in respect of whom a medical certificate has been given which is *prima facie* unsatisfactory, "such certificate must be at once forwarded to the Board's medical officer, who shall, if necessary, communicate with the medical man who has issued it, and shall report to the School Accommodation and Attendance Committee all cases of improper certificates."

3. That the East Lambeth Divisional Committee be authorised to reappoint, upon the undermentioned conditions, three doctors in that division to examine cases of children in respect of whom a medical opinion is required, but in which no medical certificate is produced, or in which the magistrate or the justices of the peace is or are dissatisfied with the medical certificate furnished:—(*a*) That each case be first referred to the divisional member in charge of the school where the child ought to attend; (*b*) that a payment of 2*s*. 6*d*. shall be made for each case examined; (*c*) that the number of cases to be dealt with in this manner shall not exceed 100 in one year; (*d*) that the names of the doctors selected shall be forwarded to the magistrates having jurisdiction in the division.

Mr. Sharp is reported as having said that he thought he had satisfied the medical profession, so we may tell him at once without any beating about the bush that he has not.

For what has he done? He has deliberately continued the resolution of May 30th, 1895 (*vide* Resolution 3). Not only has he done this, but he has drawn up and passed a new resolution (*vide* Resolution 1) to the effect that the system in operation be continued. If Resolutions 1 and 3 hold, Resolution 2 is merely a sop. Surely Mr. Sharp and the Board do not think that the profession will be satisfied with these resolutions. No, the Board must understand that it will have to accept some such amendment as that of Mr. Riley, upon which we commented in our issue of June 8th, 1895, p. 1445. The School Board at Bradford has been hopelessly beaten by the profession in a like matter,[1] and it remains for us to tackle the London Procrustes which stretches little children, whether fit or not, upon the educational rack.

BUBONIC PLAGUE IN HONG KONG IN 1896.

SIR WILLIAM ROBINSON, in his capacity of Governor of the colony of Hong Kong, has sent a very instructive report to the Colonial Office on bubonic plague in the settlement during the present year. To the date of his writing on May 6th there had occurred 675 cases, and of these 602, or a little more than 89 per cent. of attacks, had proved fatal. In 1894 the mortality had been at the rate of 93 per cent. of the cases treated in hospitals. But even this high rate took no account of dead bodies found in the streets, and so the disease of the present year is looked upon as of a milder character than that which prevailed in the year just named. And, again, the mortality of the present epidemic is the more favourable since it is stated that *all* deaths have been heard of, a circumstance not to be thought of as having obtained in 1894. All the patients were Chinese except 22, consisting of 6 Europeans, 4 of whom died; 15 Indians, of whom 6 died: and 1 fatal case in a Siamese. The first case arose on Jan. 4th, and up to the close of the month there had occurred 45 cases, deemed to be of a sporadic nature. The disease then increased, as many as 41, 45, 60, and 77 cases occurring in some of the succeeding weeks. In the last complete week reported upon—namely, that ended May 2nd—there were 63 attacks. The disease was therefore still epidemically prevailing at that time. The precautions taken were the removal of every sufferer at once to hospital and the segregation on roomy junks of all the members of invaded houses until the numbers became so numerous as to make it impossible to continue this practice. The infected houses were taken over by the police and disinfected, cleansed, and the like, and all precautions of disinfection of clothing taken. When it became impossible longer to segregate members of invaded dwellings on the junks the authorities decided to allow residents to proceed to Canton under restrictions. The plague was at this time prevailing also in Canton. The visiting staff at the disposal of the Government was enlarged to cope with the immense strain on the few members permanently engaged, and whilst the antipathies of the Chinese were much less pronounced than in 1894 against the action taken for the purpose of stamping out the disease, still the trouble caused by the desire of the natives to conceal cases and dead bodies was of a kind to call for great tact and patience. So imperative did it seem that steps should be taken to allay suspicion on the part of the Chinese as to the motive which prompted the authorities in the measures they were adopting that it was soon decided to permit the removal of patients, and later even of bodies, by relatives to the mainland under regulation; and whilst this had in some degree at least the result desired, only one patient and only four dead bodies were removed. House-to-house visitation was largely carried on, and the condition of housing of the Chinese found to be of a character calling for the appointment of a commission of inquiry into the question. The plague is classed as a filth disease, and was confined to the poorer classes of Chinese, whose dirty and insanitary habits foster its progress. The accumulation of dirt and rubbish is surprising, and bad ventilation, overcrowding, and inadequacy of light, added to high rents, aggravate such a malady as plague. But in connexion with the disease generally Sir William Robinson holds the view that unless its recurrences can be prevented great harm must accrue to the colony, and he is of opinion that it will be difficult to stay its spread in Hong Kong so long as it continues to prevail on the adjacent mainland. The matter is pressing and presents problems difficult of solution.

[1] THE LANCET, Aug. 1st, 1896, p. 330.

THE RELATIVE EFFICIENCY AND COST OF PLUMBERS' WORK.

THE flattering reception accorded by the press to the report of our Commissioners upon the Relative Efficiency and Cost of Plumbers' Work, together with the great demand for the reprint, is a gratifying proof of the utility of the inquiry. It is still more satisfactory to us that the leading organs representing the various interests immediately concerned have accepted our report, on the whole, as sound and useful. Any slight divergence of opinion that exists bears upon the economic aspect of the question only. It is difficult to suppress a feeling of regret that those interested have not been stimulated to offer some practical suggestions for the improvement of the defects pointed out as existing in the contract system. The various opinions are, however, of interest, as they emphasise certain points to which attention had been drawn in the report. Special reference to one suggestion must be made, as it is of undoubted value. Our contemporary, *Truth*, in its issue of July 23rd, in a short but eminently practical notice, says, quoting from the report, "What is required is a standard of charges that will yield to the master plumber a fair remuneration for capital and time employed, or some properly qualified board to whom at a slight cost an appeal might be made by either side to act as arbitrators," and this important proposal is added, "Cannot the Plumber's Company, who, for a city company, seem to take an exceptional amount of interest in the trade they represent, do something to supply this desideratum?" Certainly it would be difficult to conceive a source from which a more impartial or better qualified board of arbitration could be drawn, numbering as this Company does among its members many men of high social position, including members of the learned and architectural professions, together with the leading men in the plumbing trade. The Company has already done much to advance the public health by its efforts to ensure the efficient training of the craftsmen; could it be induced to form such a board as is suggested it would undoubtedly be conferring a boon on the community at large, and it would be felt that THE LANCET Commission had led to enduring results.

THE GOVERNMENT GAOL AT PRETORIA.

WE have received the following particulars concerning the gaol at Pretoria in which the Reformers were confined. We give them in our correspondent's own words:—

"The particulars I can give you are as follows:—Ground covered by buildings and yards, 551 ft. by 227 ft. There is one large courtyard into which the gate opens, and four small yards. Everything is on the ground floor. The cells are four-wall brick rooms with door, and ventilator in door, and floor, and in a few cases slate slab. During the stay of the Reformers there must have been over 200 persons there confined. Of course this includes Kaffirs. The district surgeon attends once daily to see those who wish to see him.

When the Reformers were there tents, canvas lean-to's, and one galvanised iron building with wood floor were put up. They had their own food brought in and liquor, and even after sentence the only restriction laid on them was curtailment of liberty outside the gaol and check on their visitors. They had absolutely free intercourse with their fellow prisoners. The warders are very few in number, especially at night, and consequently there was a little difficulty at first about cases of diarrhœa beginning in the night, the cells and rooms all being locked.

"The water-supply is the same as the town, probably as perfect as could be thought of. The electric light company of the town supply lights. The town pail system also prevails. That the present accommodation and system would not do in Northern Europe is undoubted, but in this warm climate, where everybody is only in a room for the actual hours of sleep, I do not think the position is quite the same, and anyone trying to make a grievance of the condition of affairs when the Reformers were here would not be borne out by the Reformers themselves.

"I saw the Reformers frequently, and the only complaint I ever heard was their curtailment of liberty; in all other respects they declared themselves very well treated. They suffered from no complaint not more prevalent in the town, and I think enjoyed better health than a similar number of citizens."

Our correspondent adds to his letter that he does not write in any way in support of the Government, and that for that matter he is a personal friend of many of the Reformers. But he has been unable to shut his eyes to the fact that there has been a great desire to abuse the Boer Government at every turn. In thanking him for his information he will observe that we have discarded his suggestion that we should "shape the material," as we consider that in a matter where there have already been so much difference of opinion and so much difference in detailed description our readers will be pleased to get first-hand information from someone on the spot not touched up either in response to political feeling or an editorial love of elegant expression. He also wishes us not to publish his name, hence the form in which we have printed his communication.

ANTI-CHOLERAIC INOCULATIONS.

DR. W. J. SIMPSON, the health officer of Calcutta, who is a most indefatigable and energetic worker in the cause of public hygiene and applied medical and sanitary science, has just furnished to the chairman of the Calcutta Corporation a document embodying the results of the anti-choleraic inoculation work as carried on in that city during the past two years, which also includes observations on the results obtained elsewhere in India. Dr. Simpson appears to have gone into the subject with conscientious care and ability and has certainly succeeded in making out a strong case for continuing the anti-choleraic grants so that the inoculations may become one of the agencies by which the Health Department may combat cholera in Calcutta. His report mainly consists of a number of facts and figures which require to be thoughtfully studied, for the document does not easily lend itself to brief analysis. We may, however, succinctly refer to some points which will indicate its nature and the trend of its teaching. In the first place we may say that the inoculations which have been so extensively practised in India have without exception proved harmless. From a table embodying all the observations made since the inoculations were introduced into Calcutta up to the end of June last it appears that in 77 houses there were 89 deaths from cholera, 77 being among the uninoculated and 12 among the inoculated. Comparing the respective liability of the inoculated and uninoculated to cholera attacks we find that during the first four days after inoculation cholera occurred among both classes alike, though in a smaller degree among the inoculated. After the first four days there was a period of over a year when there was almost absolute freedom among the inoculated, while among the non-inoculated in the same houses cases were occurring during the whole year; after this period of one year cases began to reappear among both classes—inoculated and uninoculated. The next point is that as the protection from inoculations with very weak doses of anti-cholera vaccine was found to disappear in a comparatively short time, the strength of these was increased towards the end of 1894 with the object of producing a more lasting effect. The figures are not yet available to show whether these latter have had the desired results. Dr. Simpson incidentally mentions that when he was in Berlin Professor Koch expressed himself satisfied with the value of the inoculations made in India, and alluded to the corroborative evidence obtained by a series of experiments instituted by himself, Professor Pfeiffer, and Dr. Kolle as to the protective properties of anti-cholera inoculations. Experiments with the blood serum of inoculated persons had a rapid and absolutely destructive effect on the comma bacillus, exceeding in this respect by 200 times the power of the serum of ordinary individuals. Dr. Simpson also mentions that Professor Klein had informed him that he had now perfectly convinced himself that the comma bacillus is the causal agent of cholera—a doctrine to which he was at one time, as is well known, strongly opposed. We trust our readers will peruse Dr. Simpson's instructive paper for themselves, but we would venture to make a few remarks that occur to us at the moment. We are entirely with Dr. Simpson in thinking that the subject of anti-cholera inoculation requires to be prosecuted further and wish him every success. We would call his attention to the results of some recent experimental investigations by Roux, Metchnikoff, and Salembini at the Pasteur Institute in connexion with this subject. One of the difficulties in studying this disease is the necessity of making sure that it is really cholera which is artificially induced in the experimental inoculations of the lower animals. In dealing with statistical evidence it is scarcely necessary to add that we require to work with large numbers and over extended periods of time to avoid error and the liability to fluctuation where smaller numbers are concerned, and to bear in mind also the value of positive as compared with negative evidence. But setting aside these points a practical difficulty occurs to us in carrying out these anti-choleraic inoculations. Assuming that we have a perfectly reliable anti-choleraic agent if its protective properties only last a year it will be difficult indeed to apply it annually to a teeming population like that of India, and every effort must be made to overcome this difficulty.

ROYAL COMMISSION ON TUBERCULOSIS.

THE Second Royal Commission on Tuberculosis held its first sitting on the 29th ult. The Commissioners present were Sir Herbert Maxwell, chairman, Dr. Thorne Thorne, C.B., Professor Brown, C.B., Mr. Shirley Murphy, Mr. Clare, Mr. Speir, Mr. Trench, and Dr. T. M. Legge, the secretary. No witnesses were called, the meeting being only of a preliminary character. It is understood that at its close an adjournment took place till after the recess.

GLOUCESTER AND SMALL-POX.

ACCORDING to the Registrar-General's quarterly return, which has just been published, of the total of 319 deaths from small-pox recorded in England and Wales during the months of June, July, and August, no less than 277 occurred in the city of Gloucester. The number of deaths last quarter in that city from diseases other than small-pox was 120; the mortality caused by small-pox was therefore equal to an addition of 231 per cent. to this number. We commend this fact, the accuracy of which is vouched for by the Registrar-

general, to the notice of the Royal Commission on Vaccination now sitting. Such an occurrence as the above is certainly unique in the history of small-pox prevalence within recent years. The incidence of fatal small-pox in other parts of England and Wales appears to have been nowhere excessive last quarter. Outside the Gloucester district only 42 deaths from this cause were registered, of which 3 belonged to London, 4 to Bristol, and 3 to Aston Manor.

A SON of Rokitansky, the celebrated Austrian pathologist, died recently in Vienna at the age of sixty. The deceased first appeared in public as an operatic singer in Prague in 1860, and he played in Her Majesty's Theatre in London in 1865. He was for thirty years a member of the company of the Imperial Opera in Vienna, and for ten years a professor at the Conservatorium.

DR. BURNEY YEO has been appointed by the Council of King's College Professor of the Principles and Practice of Medicine in succession to Dr. Lionel Beale, and Dr. John Curnow has been appointed to the chair of Clinical Medicine in succession to the late Sir George Johnson.

THE London Sea Water Supply Act, which, as our readers will remember, was promoted to supply London with sea-water brought from Lancing, received the Royal Assent on July 20th.

MEDICO-PSYCHOLOGICAL ASSOCIATION.

THE annual meeting of the Medico-Psychological Association of Great Britain and Ireland was held at 11, Chandos-street, W., on July 23rd and 24th. Dr. JULIUS MICKLE took the chair as President of the Association for the ensuing year, in succession to Dr. Nicolson, and Dr. Percy Smith succeeded Dr. Fletcher Beach as honorary general secretary.

The Gaskell Prize and Gold Medal were conferred on Dr. Dawson of Finglas, county Dublin, and the Bronze Medal and Prize on Dr. John Turner, of the Essex County Asylum.

The PRESIDENT delivered an introductory address on the subject of Mental Besetments or Obsessions, pointing out that in such conditions there is usually a blending of anomalies of thought, feeling, and will, but that in some cases disorder of one of these divisions predominates over the others. He therefore considered the subject under the headings of besetting doubts, besetting dreads, and besetting acts, and pointed out the dangerous nature of such conditions.—A vote of thanks to the President for his address was carried.

Dr. G. R. WILSON read a paper on Weismannism and Insanity, contending that we inherit nothing from our parents but a fertilised ovum, and that all else is acquired by external conditions, that heredity is a law of development and not a physiological process, and that the factors of insanity are three—arrest of development, excessive variation, and defective regeneration. He raised the question as to whether there was a direct physiological relation between any given plan of nerve connexion and the ova and spermatozoa, and considered that the question could only in part be solved.—Dr. ANDRIEZEN discussed the paper and upheld the views of Weismann.

Mr. J. F. BRISCOE read a paper on Heredity in Mental Disease. He specially referred to the frequency with which syphilis affects the impregnated ovum, and pointed out that by inherited syphilis the interior economy of the infant is sure to be weakened and liable to nervous breakdown. He reviewed briefly the neuroses and structural defects common in children of nervous inheritance, and referred to the doubts as to the true significance of deformities of the palate.

Dr. WALTER CHANNING of Brooklyn, Mass., who attended the meeting as the representative of the American Medico-Psychological Association, read a paper on the Significance of the Narrow Palate in Idiots. Conclusions were founded on the results of examination of 850 casts of palates of idiots which showed a much smaller percentage of deformity than was found by Clouston, and were as follows. 1. Nearly half the palates of idiots may be classed as of the U or fairly average in shape. 2. There is no form of palate peculiar to idiocy. 3. Palates of healthy children and idiots under eight years of age do not as a rule markedly differ. 4. In about 8 per cent. of idiots infantile characteristics of the palate persist in adult life, which are more significant of imperfect development than of so-called deformity. 5. Palates of normal individuals are often deformed. 6. In the idiot it is a difference of degree and not of kind. 7. In either case it shows irregular development anatomically. 8. The underlying causes probably include all the complex conditions of modern life. 9. Mechanically dentition is largely responsible for the amount and variety of deformity, more so probably than is usually imagined. 10. The statement that V-shaped or other varieties of palates are stigmata of degeneration remains to be proved.—The PRESIDENT did not consider that Dr. Channing's results invalidated the position that the deformities do indicate degeneracy.—In answer to Dr. Fletcher Beach, Dr. CHANNING said he did not consider the presence of a deformed palate in an idiot to indicate that the case was a congenital one.—Dr. W. DOUGLAS thought the range of inquiry too narrow and that the whole cranium ought to be considered.

Dr. TURNBULL read notes on Female Nursing in an Asylum Male Sick-room, showing from experience at the Fife Asylum the advantages of female nursing for certain groups of male patients suffering from bodily diseases who are generally nursed by male attendants. He also exhibited a plan showing how it had been possible to make this arrangement at the Fife Asylum.—Dr. SAVAGE thought that many male cases could be treated by female nurses.

Dr. R. S. STEWART read a paper on the Increase of General Paralysis in England and Wales: its Causation and Significance. While showing that there is, so far as statistics show, no warrant for the view that the English race is becoming increasingly liable to insanity, he concluded that the type was changing and that general paralysis was increasing disproportionately, the increase being most marked in males of the private class, while in females of the same class the rate of increase was diminishing, due to the absence of alcoholic excess. The increase he found to be most pronounced in large towns and greatest of all in seaports and next greatest in mining counties, while in agricultural counties generally there is an actual diminution. He considered that the increasing prevalence of general paralysis indicated an unfavourable change of type of insanity, increasing moral decadence, diminishing power of resistance, and premature and rapid racial decay.—The PRESIDENT considered Dr. Stewart's paper to confirm the idea of general paralysis being due to "fastness."—Dr. HAYES NEWINGTON did not think that general paralysis was only due to wrong-doing, but that heredity had a great deal to do with it.—Dr. YELLOWLEES agreed with Dr. Stewart.—Dr. ANDRIEZEN referred to the inheritance of other conditions than insanity, such as epilepsy, tendency to cerebral hæmorrhage, &c.

Dr. HAVELOCK read a case of Recurrent Mania, detailing the history of a male patient who, from the age of twenty to fifty-four years, had suffered from frequently recurring attacks of maniacal excitement of short duration, between which he had been able to conduct a large and important business. The last attack was in January, 1893, since which he has remained well. Dr. Havelock considered this apparent restoration to a stable condition to be due to regular cycling exercise.—Dr. YELLOWLEES thought the patient's age might account for the cessation of recurrences, the case being an example of male climacteric change.—Dr. BONVILLE FOX and Dr. HAYES NEWINGTON discussed the morbid changes underlying recurrent insanity.—Dr. SAVAGE called attention to the possibility of serious results in allowing insane people to cycle.—Dr. DOUGLAS also discussed the paper.

Dr. W. F. ROBERTSON showed a series of microscopic specimens exhibiting the morbid changes in the intra-cranial bloodvessels in insanity, with especial reference to hyaline-fibroid change in the cerebral vessels in general paralysis and senile insanity.

Dr. ANDRIEZEN read a paper on Some Further Aspects of the Pathology of Insanity, pointing out the increasing complexity of the cerebral cortex in the ascending scale in the higher vertebrates. He referred to Flechsig's views as to the psychical area of the cortex, and pointed out the importance of the vascular mechanism of the brain in relation to different forms of insanity.

THOMAS WAKLEY,

THE FOUNDER OF "THE LANCET."

A BIOGRAPHY.[1]

CHAPTER XXXI.

The Medical Witnesses Bill.—Petitions in its Favour.—Daniel Whittle Harvey.—Wakley's Speech in support of his Motion.—Permission given to Introduce the Measure into the House.—Its rapid Transformation into Law.

THE flattering manner in which Wakley's amendments to Mr. Cripps's defunct County Coroners Bill, securing for the medical witness adequate remuneration for his services, had been received by the House and the press, as well as the numerous petitions that had reached him on the subject from his professional brethren, decided him to ask leave to bring in a measure dealing exclusively with the subject.

It should here be said that Wakley's views on the coroner's office were very well known indeed to the metropolis, and, for that matter, to the general public. They had become familiar to the House during the debates on Mr. Cripps's Bill, and had been received with respect there, as we have seen; but very little that fell from his lips in St. Stephen's had not been already said both to the readers of THE LANCET and to the free voters of Middlesex in the year 1830, when he offered himself for the post of coroner for Middlesex. On that occasion he made a series of most important speeches on the duty of the coroner, all tending to show that the office ought to be held by a medical man. The arguments that he employed then will be fully stated in dealing with his career as coroner for Middlesex, to which post he was ultimately elected in the year 1839. Their connexion with his views on the position of the medical man as an expert witness is not very close, but the memory of Wakley is so closely bound up with his tenure of the coroner's bench that to dismiss his views on the scope and privileges of the office in any summary manner, when an opportunity might seem to be present for dilating upon them, would come as a surprise unless it were explained. More, then, is not said here because so much more will have to be said very shortly.

Wakley's motion that leave be given to bring in a Bill to provide for proper payment to medical men attending at inquests was set down for March 1st, 1836. Before he began to speak to it several Members presented petitions in support of his contention. Mr. Wilkes, the Member for Boston, told the story of an incident which had occurred in the practice of one medical man, but it was of so typical a nature that it had been put into the form of a petition in favour of Wakley's measure and presented to the House as such. The petitioner had been requested by the coroner of his district to undertake the post-mortem examination of the body of a person who had died under circumstances warranting the supposition that he had been murdered. The petitioner found that to make his evidence worth anything the contents of the stomach must be analysed. As a result of this necessity the inquest was adjourned two or three times for several days, a good many hours of which were employed in carrying out the coroner's instructions. When the petitioner subsequently gave his evidence the coroner and jury unanimously expressed their sense of its extreme value and their approbation of the talent that he had shown in his scientific examination of the viscera. Further, they recommended to the parochial authorities that he should be paid ten guineas for his services. In accordance with this recommendation the medical man approached the parochial authorities, only applying, however, for three guineas, the scale of payment being made on the scale of one of Wakley's recently successful amendments to Mr. Cripps's Bill—viz., one guinea for the evidence and two guineas for the necropsy. The answer of the parochial authorities was the one that they felt themselves regretfully constrained to render. They said that they had no power whatever to make the medical man compensation out of any fund under their control. This case was felt by the House to put the matter in a very small compass. Here was a man who, by the expenditure of much time, during which he was employing hardly-won learning and experience, had been enabled to help the cause of justice materially. He had, in fact, played with success the part now played by the scientific analysts attached to the Home Office. His work was acknowledged by the court and the jury as having materially assisted them in the discharge of their duties. They desired, therefore, to reward him, but found themselves unable to do so.

Immediately after this petition was laid on the table another was presented from a group of Surrey medical men, begging the House to take into consideration the difficulties with which medical men had to contest as witnesses at coroners' inquests. Sir John Reid, the member for one of the divisions of the county, who had charge of the petition, added that for his part he considered that no individuals in the social scheme of the day were so badly paid for their labours as the gentlemen of the medical profession—an expression of opinion that was received by the House with cheers.

Several other members presented petitions of the same tenor, among which was one signed by eight hundred and twenty-six gentlemen "distinguished for their professional eminence in London," not including "sixty-five professional gentlemen resident in the Borough of Southwark." Among the signatories of this petition, whose title shows that eminence was rather a usual quality with the metropolitan medical man of the day, may be mentioned Sir Astley Cooper and Sir Anthony Carlisle. It was presented by Daniel Whittle Harvey, and it is probable that the personal influence of this gentleman had something to do with the inclusion of names in its endorsement whose owners would have been unwilling on private grounds to subscribe themselves as supporters of any movement inaugurated by Wakley. But Daniel Whittle Harvey was in a sort of way a political power, being a speaker of real eloquence as well as unparalleled fluency, and a great favourite with popular audiences. He had started in life as a solicitor, but was removed from the rolls at his own request on determining to join the Bar. The benchers of the Inner Temple, however, refused to call him for reasons which a Parliamentary Committee afterwards found wholly groundless, and the publicity given to the injustice that he had received did not tend to diminish his popularity. He stood for Colchester in 1818 in the Radical interest, and continued to represent that town until the passing of the Reform Bill, when he was elected for Southwark. He was at this time editor of the *Weekly True Sun* and was one of Wakley's most intimate associates in the House, being always ready to place at the disposal of his brother journalist the fruits of his long parliamentary experience. Some three years later Harvey was appointed Commissioner of the Metropolitan Police, when he was compelled by the regulations of his office to retire from the House, but during

[1] Chapters I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., XIII., XIV., XV., XVI., XVII., XVIII., XIX., XX., XXI., XXII., XXIII., XXIV., XXV., XXVI., XXVII., XXVIII., XXIX. and XXX. were published in THE LANCET, Jan. 4th, 11th, 18th, and 25th, Feb. 1st, 8th, 15th, 22nd, and 29th, March 7th, 14th, 21st, and 28th, April 4th, 11th, 18th, and 25th, May 2nd, 16th, 23rd, and 30th, June 6th, 13th, 20th, and 27th, July 4th, 11th, 18th, and 25th, and Aug. 1st respectively.

his political career he was one of the most prominent personalities in the party with which the names of Roebuck, O'Connell, Wakley, and Hume are associated, and a few words recalling him to the reader's mind are not out of place.

Wakley, in rising to bring forward his motion, said that from the very favourable manner in which the House had received the petitions just presented he thought he should not have to occupy the attention of the House for very long. When the County Coroners Bill was brought before the House last year Members would recollect that it contained a clause professing to provide for the remuneration of medical witnesses at inquests, which clause, however, shared the fate of the whole Bill, the Bill being rejected by the House, and very properly so, being perfectly unsuited to the object which it should have sought to attain. He was ready to admit that in some respects medical men might not be more useful, when they attended as witnesses, than other men, but he urged that it should be borne in mind that medical men attended inquests in their professional capacity—they did not attend as casual observers of the event which might have occasioned the inquest, but as professional men, who alone could give information essential both to the ends of justice and as the basis of a true verdict. The duties of medical men were exceedingly important and were very difficult of accomplishment and very frequently attended even with danger to life. A post-mortem examination was not to be conducted in haste or without science and trouble. Many instances within the speaker's knowledge had arisen where such an examination had necessarily been protracted through a period of eight or ten hours, and yet where the medical witnesses who conducted it obtained no kind of remuneration, the coroner having no power to award them the slightest compensation. He went on to assure the House that that was a state of things not so injurious to the medical profession as to the public at large, in that it defeated the whole object which the public had in view in holding a coroner's inquest. The coroner's office was one of the most important offices in England, and was almost the only office to which the people still had the power to elect their own judge. Yet unless this judge was empowered to give compensation to medical witnesses the court had a tendency to become almost useless. When a coroner called a medical witness before him he had not the power of requiring the witness to make a post-mortem examination, although the result of such examination might be the only means of enabling the jury to return a correct and faithful verdict. During a very short period several inquests had been held in the metropolis upon the bodies of persons who had died under very extraordinary circumstances. Quackery was at that moment producing more victims than it had ever done at any former period. It was fearful to observe the consequences which flowed from the quack advertisements with which the newspapers teemed, and he for one would be glad indeed if His Majesty's Government would resolve on the removal of these disgraceful outrages on society by preventing quack medicines from going forth under the authority of Government stamps. He then alluded to an inquest held a few days previously at Woolwich Barracks on the body of a marine who had died after being flogged. Several medical men had attended, all of them without obtaining any compensation, and had given evidence which had produced in the minds of many of the jury the impression that a most terrible outrage had been committed. Had these gentlemen been selfish or mercenary enough to refuse to attend, or had they withheld their evidence as professional men the cause of justice would have been improperly represented. And how frequently did similar instances occur. Taking into consideration these points, and observing the anxiety of the people to have faithful verdicts recorded, he trusted that the House would not refuse to grant that compensation to medical witnesses which would be ensured by the passing of this Bill. He was sure from what he had observed that the principle of the Bill would be sanctioned by the House, and did not propose at this stage to enter into details, but merely with these observations to move that leave be given to introduce a measure to provide for the payment of medical men who might attend as witnesses at coroners' inquests.

The Attorney-General (Sir J. Campbell) said that from his experience he would venture to say that such a Bill would be exceedingly useful. He confirmed Wakley's statement that in many cases justice had been obstructed in consequence of competent medical evidence not having been given before the coroner's court, while the niggardly manner in which medical men were treated made the absence of their evidence no just matter for surprise. Juries were either without medical evidence altogether, or, when it was obtained, the injustice of refusing to award a fair and honourable remuneration was committed. He would only advise the mover in framing the Bill that he must be careful lest it should be so worded as to be made the means of a job on the part of the coroners themselves. With this caution he certainly thought that when medical men were called in to assist they ought to be properly compensated.

Mr. Warburton, in seconding the motion, said that of course the mover would take care in his Bill that medical witnesses should be paid for their attendance, but he should think that in cases where persons of superior information were called and where their apparatus for analysis was costly the remuneration would fall short of what it ought to be unless account were taken of the heavy expenses involved in the education of such a person. He alluded to the story told by the Member for Boston, and considered that in that case the petitioner ought to have applied to the Home Office for payment, lest the ends of justice should be defeated.

The Bill was also supported by the Solicitor-General (Sir R. Rolfe), among others, only one objection being expressed to the measure by Mr. Jervis, Q.C., the Member for Chester. Mr. Jervis did not object to the Bill but observed with regard to the existing law that a coroner if he desired the presence of a medical witness could issue a warrant to the parochial officers ordering them to send one; in such a case he contended that the medical man would undoubtedly have a claim upon them which he could enforce.

Wakley rose to answer the objection of Mr. Jervis. He thought that that gentleman was not quite correct in his statement. True the coroner might order the overseers to obtain the medical witness, but it was equally true that the witness might, if he pleased, refuse to give evidence. He might say, "I will not open the body; I will give no testimony respecting a post-mortem examination," and the coroner had no power whatever to compel him to give his opinion as to the cause of death or to commit him for contempt of court. He (Wakley) desired to give the coroner more power, but as a set-off against that power he desired to give the medical man due compensation. He would, he assured the House, take the greatest care to so frame the provisions of the Bill as to make jobbing impossible. In Ireland much jobbing had taken place under the Coroners' Act, but with that example before his eyes he would take care that nothing of the kind should happen here.

Leave was given to bring in the Bill amid the cheers of the House. Its after-history was short and uneventful and its details need not be mentioned. It provided for the payment to all medical witnesses at coroners' inquests of one guinea for their evidence and one guinea for post-mortem examinations, including any scientific analyses that might be deemed necessary by the court. It

became law in upwards of three months, not the least discussion on its clauses ever occurring, so entirely was it both in spirit and detail to the mind of the House. The only alteration made to it in Committee was verbal. From beginning to end Wakley's conduct of his measure was marked by tact and thoroughness. He knew exactly what was wanted and was able to explain satisfactorily the meaning of his provisions. A large sum of money was thus annually secured to the medical profession for professional services, while the public received an additional security against the risks of murder the importance of which cannot easily be exaggerated.

(To be continued.)

REPORT ON THE MORTALITY IN ENGLAND AND WALES DURING THE TEN YEARS 1881-90.[1]

I.

THE first instalment of a publication technically known as the Registrar-General's decennial supplement has been presented to Parliament, and within the last few days has been issued by the Queen's printers. In reality the document consists exclusively of Part I. of Dr. Tatham's report on the mortality and vital statistics of England and Wales during the decennial period 1881-90.

The present is the fourth report of its kind that has emanated from Somerset House since the establishment of civil registration in 1837, the first two reports having been contributed by Dr. Farr, C.B., and the third by Dr. William Ogle. We congratulate Dr. Tatham heartily upon his first contribution to this series, which will worthily bear comparison with the admirable labours of his forerunners. The report will be of infinite value to medical officers of health and to all students of preventive medicine as an example of careful and exhaustive treatment of mortality statistics. The arduousness of the labour that has been involved in the production of this enormous volume of some nine hundred pages can hardly be over-estimated.

In comparing the present decennial report with its three predecessors we notice that Dr. Tatham has departed in several respects from the lines followed by his immediate predecessor in the supplementary report for 1871-80, and has reverted to the arrangements adopted by Dr. Farr in dealing with the statistical portions of his decennial supplements for the two earlier decennia. It has been arranged to publish the supplementary report for 1881-90 in two parts; the first volume, which is the subject of the present notice, dealing with all the topics treated of in former supplements except that of occupational mortality, which latter subject will form the basis of Part II., shortly about to be issued. As regards the arrangement of the tabular matter, which, of course, forms the greater part of this present volume, we observe that the county and district mortality tables have been printed lengthwise instead of across the page, as in previous supplements. The plan now adopted allows of the use of larger type as well as of the addition of much valuable information which we note for the first time in these tables. The facts and rates of death by age and cause are given in separate tables for males and females in England and Wales and in each of the forty-three counties, and although *the facts of death* in combination with sex and age are given for *persons* only in the 632 registration districts severally, nevertheless the *rates of death* in each district are given for males and females separately as well as for persons, and inasmuch as this arrangement obviously economises space and expense in printing it will be probably considered satisfactory under the circumstances. In any case the present tables are a substantial improvement on those of the preceding supplement. We are pleased to find that an elaborate and carefully prepared alphabetical index, an indispensable addition to works of this kind, has been appended to the present volume. In an early part of his letter to the Registrar-General, to whom this report is officially addressed, Dr. Tatham makes a point of acknowledging his indebtedness to the medical profession throughout the country for the valuable fund of information respecting deaths and their causes which is still accumulating in the General Register Office. We agree with him in the opinion that in default of this generous coöperation of the profession with the State no system of vital statistics worthy of the English nation could possibly have been arranged. Influenced by this consideration Dr. Tatham has determined to develop to the utmost the practical value of the present supplement as a work of reference for students of preventive medicine. "I feel assurred," he says, "that to have succeeded in this endeavour would constitute the highest tribute I could offer to the memory of Dr. William Farr, whose life-long labours in behalf of that science which must ever be identified with his name still continue to influence beneficially the health conditions of his fellow-men." With the object of justifying the considerable expenditure of time and of clerical labour requisite for the production of such a work as the present Dr. Tatham explains that the elaborate series of tables, some 800 in number, contained in the present volume are by no means summaries of facts already published; on the contrary, they have been prepared from a large mass of hitherto unpublished "tabling sheets" in the custody of the General Register Office, for the purpose of obtaining a comparative statement of mortality in each of the 632 registration districts among males and females at several age groups and from specified causes. In order that the work may contain as much useful material as could be compressed within reasonable limits, some of the tables used in previous supplements have been considerably modified in this report, and substantial additions have been made on the present occasion to the routine information which has appeared in previous supplements. On page 7 is given a table which shows at a glance the mortality at certain stages of life amongst males and females in each decennium of the last half century. From this table it appears that whilst in 1871-80 the death-rate of England and Wales had been equal to 21·3 per 1000 of the population, the rate fell to 19·1 per 1000 in the ten years 1881-90, the decrease within that period having been 10 per cent., against a decrease of scarcely more than 5 per cent. between the two decennia immediately preceding. The table shows that this decline in the mortality at all ages was shared by both sexes in almost equal proportions, the rate among males having fallen by 10 6 per cent. and that among females by 10 per cent. The figures show a decreased mortality among females at all the age-groups and among males at all but the age-group 65-75 years. This had been by no means the case in the preceding ten years, for on comparing the mortality in the two decennia ending severally with 1870 and 1880 it was found that whilst the rates had fallen at the earlier periods of life (under forty-five years) they had risen considerably at ages after middle life. In the recently ended decennium not only the mortality at all ages, but infantile mortality also, exhibited a decline, and as the death-rate among infants is generally accepted as the most sensitive test of the health of a population this fact is one upon which the sanitary authorities of the country generally are to be congratulated. There is no doubt, says Dr. Tatham, that a considerable proportion of the diminution in the death-rate since 1870, though by no means the whole of it, is the direct result of what is implied by the term "improved sanitation." On reflection, it is evident that the fall in the birth-rate, steadily continued as it has been throughout the last eighteen years, must have seriously affected the age constitution of the population, and as the death-rates at the different ages vary enormously the aggregate rate of mortality must have been modified accordingly. The numbers of males and females living between the ages of ten years and forty-five years, when the mortality is low, were relatively greater in 1881-90 than in the preceding decennium, and, sanitary conditions remaining unchanged, the effect of this change alone will be to reduce the mortality at all ages. If the age-constitution of the population in 1871-80 had been the same as it was in 1881-90, the mortality in the earlier decennium would have been, not 21·3, as actually recorded, but 20·8; and

[1] Supplement to the Fifty-fifth Annual Report of the Registrar-General of Births, Deaths, and Marriages in England. Part I., by John F. W. Tatham, M.A., M.D. Dub., Superintendent of Statistics, General Register Office. London: Eyre and Spottiswoode. Edinburgh and Glasgow: John Menzies and Co. Dublin: Hodges, Figgis, and Co. 1895. Price 3s. 6d.

it is this latter figure rather than the former which should be used for the purpose of demonstrating the actual diminution in the death-rate since the year 1880.

(To be continued.)

NOTES ON A NEW KINO.

ALTHOUGH kino was introduced into European medical practice nearly 150 years ago and has gradually been incorporated into ten Pharmacopœias, including our own, the French Codex, and the Pharmacopœia of the United States, there is still some uncertainty about the origin of at least a portion of the supplies from which the wants of pharmacy are filled, while recent research into the astringent properties of the commercial drug reveals a most unsatisfactory divergence of tannin value and solubility in the examined samples, although the specimens were all obtained from the chief source of the market-supply in Europe. The tannin value of six specimens examined in this way ranged from 14·2 per cent. to 52 per cent., the least satisfactory of the samples yielding 7 per cent. of a grey-coloured ash, while the best only gave 1·75 per cent. of white ash. The test for solubility in rectified spirit, as laid down in the British Pharmacopœia, was answered only by one specimen out of the six, and this, by the way, was the one containing also the highest percentage of tannin. It is further noteworthy that this specimen was not derived from Pterocarpus marsupium Roxb., the East Indian kino-yielding tree, which is the only one mentioned in the British Pharmacopœia as the source of the drug, but from Pterocarpus erinaceus Lam., and was, in fact, imported from tropical Africa, the habitat of that tree.

Although kino is not a very important drug it is nevertheless prescribed sufficiently often to render uniformity in quality a most desirable property of the supply, and in this respect the East Indian kinos, upon which pharmacy has been solely dependent for many years, fall lamentably short. It is difficult to understand the cause of this fact, for Pterocarpus marsupium Roxb. is by no means a rare tree, the entire therapeutical requirements of kino do not exceed three or four tons a year, and the preparation of the drug (consisting simply in making longitudinal incisions in the bark round the trunk of the tree, allowing the gum to exude into a receiver formed of a broad leaf and drying it in the sun) is so simple that a sufficient supply of kino of fairly constant therapeutic properties ought to be a matter of course. Without going further into this question it may be sufficient to state here that during the past five or six years the supply of pharmaceutically satisfactory kino has been altogether insufficient to fill the requirements, and that the price of the drug is now about thirty-five times higher than it used to be. It is said that kino is now largely used in "doctoring" port wine; but whether that be true or not medical men who are in the habit of prescribing kino (the only official preparations into which the drug enters are pulvis catechu compositus, pulvis kino compositus, and tinctura kino) would feel thankful that there is again a prospect of a regular and satisfactory supply of the article to the employment of which there is only one obstacle—viz., that that supply, though of excellent quality, is not at present official.

It is a singular circumstance that, in returning to the new, or rather the revived, African kino, of which three or four consignments have been received in London within the past half-year, we should only be going back to the original kino of European therapy, the gummi rubrum astringens Gambiense of Dr. Fothergill. For although the new supplies of African kino come from British Central Africa, and are collected on the borders of the Zambesi and some of its tributaries, it is certain that in them we have to deal with the same drug which was introduced into European materia medica by Dr. Fothergill in 1757,[1] and which for some unknown reason was superseded shortly afterwards by the produce of Pterocarpus marsupium Roxb., the beula- or bia-tree of the Malabar coast, and to a less degree by that of Butea frondosa, the dhak- or pulas-tree of North-Western India. Dr. Fothergill had his attention drawn to the remedy by a brother-practitioner, Dr. Oldfield, who had observed the esteem in which kino was held as an astringent by the natives of the Gambia country, in Western Africa. This first kino of European materia medica therefore received from its sponsor the name of gummi rubrum astringens Gambiense. There appears to be no evidence that Dr. Fothergill was aware that the same drug had been described by one Francis Moore, a factor in the service of the Royal African Company, a quarter of a century earlier.[2] Moore relates that the natives of the Gambia district knew the tree yielding the drug as "kano," but he himself confounded it with dragon's blood, a mistake which was also made by Mungo Park (who likewise referred to the tree), in spite of the fact that that celebrated traveller was himself a medical man. The mistake is easily accounted for by the circumstance that the Portuguese traders in the Mandingo country knew the "kano tree" as Pao de sangre, or blood tree. The derivation of our word kino, however, is not so easily accounted for. It is true that it is closely akin to kano, but, as mentioned above, the "kano" gum was introduced by Dr. Fothergill under a Latin name, and it appears to have been supplanted not long after its introduction by the two East Indian varieties of kino. It is generally held that our name for the drug is derived from the word *kuenee* or *kini* (Sanscrit, *kin-suka*) which is given by the natives of India to the exudation from the bark of Butea frondosa.[3] It is certainly a singular coincidence that the natives of Western Africa and those of North-West India should have used almost identical words in describing closely allied therapeutical agents employed by them for the same purpose.

As early as 1774 kino appeared in the Edinburgh Pharmacopœia as "gummi kino"; Lewis's "Materia Medica" of 1784 and the London Pharmacopœia of 1787 knew it as "resina kino"; but Dr. Fothergill's rather clumsy denomination, "gummi rubrum astringent Gambiense," appears to have lingered among our druggists until well into the present century.

Besides the African and Indian kinos there have at various times been imported into Europe substances closely resembling these in appearance, and to some extent in astringent properties. The most noteworthy of these substances are Jamaican, or West-Indian kino, a dried aqueous extract, not an inspissated juice, from Coccoloba uvifera Jacq. and Australian or Botany Bay kino, from various varieties of eucalypts (natural order Myrtaceæ). The former is mentioned by Duncan in the Edinburgh Dispensatory (1803) as scarcely distinguishable from African kino, and in the 1811 edition of the same work Duncan states that the African variety has been quite superseded by the produce of Jamaica, of Botany Bay, and of the Malabar Coast. Amboyna-kino, which is also mentioned occasionally in text-books, was probably obtained from Pterocarpus indicus (sono or bingoa-wood), a native of the Malaysian Archipelago.

Among these rival products the Malabar kino speedily gained the upper hand, and gradually obtained official recognition in many pharmacopœias, although the kino from Butea frondosa is official in the Pharmacopœia of India as buteæ gummi *vel* kino Bengalensis. The African kino, which has now once more made its appearance in commerce, is gathered under the supervision of a trained European botanist and is imported into this country by an African trading company located in Scotland. The manner in which it is obtained gives some guarantee that it will be of a constant quality and free from accidental impurities. Leaves and branches from the parent tree which have been shipped to Europe with consignments of the gum show the kino to be derived from Pterocarpus erinaceus, Lam., a tree of which the existence in British East Central Africa was not hitherto known, but which Sir William Hooper identified early in the century as the parent plant of Mungo Park's "kano."

The African kino occurs in garnet-coloured angular fragments rather larger and less dark in colour than those from Pterocarpus marsupium. The drug dissolves in cold water to the extent of about 75 per cent., yielding a pale-red solution. It is almost completely soluble in rectified spirit of wine, and was found to possess a tannin value of 52 per cent. when tested by Löwenthal's method. In all these respects it agrees with genuine Malabar kino, now almost unobtainable.

Should it prove possible to secure an adequate supply of it, the African kino, or "kano," as its commercial introducers propose again to call it, may prove a boon both from a therapeutic and a commercial point of view.

[1] Med. Obs. and Inq. I., 358.

[2] Travels into the Inland Parts of Africa. London, 1737.

[3] Proceedings of the Royal Asiatic Society, May 24th, 1838.

ANNUAL REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD.

II.[1]

THE supervision of public vaccination throughout England and Wales occupied a considerable portion of the attention of the Local Government Board's medical staff during the year 1894. In view of the sad calamity which has recently befallen the people of Gloucester because of the stubborn refusal of the Poor-law guardians to enforce the Vaccination Acts, Dr. Thorne Thorne's account of the growing tendency amongst some constituted authorities to shirk their statutory duties will surely receive more than passing attention. The medical officer tells us that of the 890,695 children born in England and Wales during 1892, 14·9 per cent. were not finally accounted for as regards vaccination, including 13,278, or 1·7 per cent., whose vaccination had been postponed under medical certificate. In the metropolis the amount of default reached 18·4 per cent., and in the provinces 14·3 per cent., both these rates being more than double those which obtained six years previously, when the progressive failure on the part of many Poor-law guardians properly to enforce the provisions of the Vaccination Acts, which has characterised recent years, may be regarded as having definitely set in. Having regard to the very serious danger to the public health, even in the metropolis itself, which these figures disclose—a danger which is certainly growing more imminent as time goes on—it is impossible to contemplate without sad forebodings the inexplicable delay of the Royal Commission to publish their final report. Whatever the verdict of the Commissioners may be on the subject of vaccination, it is certain that the patience of our profession, as well as that of the public, has been most unfairly tried in waiting for it, and we deliberately express the opinion that in the event of further delay in the production of the report becoming necessary the reason for it should be clearly and promptly announced in Parliament. But that which strikes us as of paramount importance in present circumstances is the consideration that the tardiness above referred to is being interpreted by many of the opponents of vaccination as proof that the Commissioners attach but slight importance to the alleged protective power of vaccination against small-pox, and by this means they contrive to persuade disaffected guardians to be more lax than ever in enforcing the law.

In the year 1892 not less than 1983 infants born during that year in England and Wales, out of a total of 665,640 who were submitted to the operation, were certified as insusceptible to vaccination. Inasmuch as the records of this operation at the Board's own station in Lamb's Conduit-street show that out of more than 88,000 persons vaccinated by their officers in the course of a long series of years not a single instance of insusceptibility has been known, the occurrence of 1983 cases of alleged insusceptibility in a single year calls for serious investigation. For example, it would be interesting to know how many of these instances of failure to communicate protection against small-pox occurred in union workhouses or other establishments which are specially excluded from the supervision of the Board's medical department. It would also be instructive to ascertain what proportion of the total failures occurred in the practice of public vaccinators. It is more than probable that inquiries of this nature have already been prosecuted on behalf of the Royal Commission, in which case we may read more on this important aspect of the subject in the forthcoming report.

Pari passu with the growing practice in recent years of isolating scarlet fever patients in hospitals, this disease has, in not a few instances, shown a tendency to reappear in households shortly after the return thereto of persons who had resided for some time in hospital as scarlet fever patients, and the term "return cases" has come to be applied to such instances of secondary infection. The hospital belonging jointly to the Bromley and Beckenham district councils seems to have come under the notice of the Board in this connexion during 1894, and the late Mr. T. W. Thompson was instructed to confer with the representatives of the combined hospital authorities on the subject. The circumstances are clearly set out in Mr. Thompson's report, which shows that a certain number of "return cases" appear to have been caused in the way above indicated as a result of the operations of this hospital; but in consequence chiefly of the smallness of the figures concerned Mr. Thompson did not profess to have discovered any definite solution of the matter under investigation. The report, however, which is included in Dr. Thorne Thorne's appendix, is full of interest to those who, as practical sanitarians, have to deal from time to time with return cases of scarlet fever, for it will readily be understood that these unfortunate accidents interpose difficulties of no light kind in the way of those whose duty it is to secure the prompt isolation of first cases of infectious disease. Dr. Theodore Thomson contributes a valuable report, which is included in the same appendix, on the subject of the prevalence and fatality of measles. We have repeatedly published statistics in these columns showing that the mortality from most of the diseases of the so-called zymotic class has been slowly but steadily decreasing in recent years; the case of measles, however, forms an important exception. This disease kills annually, on the average, nearly thirteen thousand persons, mostly, if not exclusively, young children, and it unfortunately shows a tendency to increase. Even in the quinquennium 1890–94 the death-rate from measles was higher than that from any other zymotic disease except whooping-cough and diarrhœa. The mortality from measles is always much greater in towns than in country places, the disease being more frequently epidemic in towns where the opportunities for direct infection from person to person in schools and elsewhere are unusually frequent. Although it is well known that uncomplicated measles is a comparatively mild disease as it occurs generally amongst the children of well-to-do persons, the case is far otherwise amongst the poor. The importance to sanitary authorities of being able to devise measures for the control of measles among the latter class on its first appearance in their districts is apparent on consideration of the tender age at which measles is mostly fatal—namely, during the second year of life. "If," says Dr. Thorne Thorne, "measles, which formerly was epidemic every other year, be so far discouraged by preventive measures as to acquire epidemicity only every fourth year, it is clear that a larger number of susceptible children will, when the epidemic arrives, have reached ages at which the disease is little fatal, and that in this way many lives will be saved which formerly were sacrificed to measles." In discussing the measures likely to prove serviceable in the face of an epidemic of measles Dr. Thorne Thorne naturally turns to notification, and endeavours to learn how far this expedient has been adopted by the sanitary authorities of the country and with what results. Here, it must be confessed, the returns are disappointing. The notification of this disease has not been required under the Act by any considerable number of authorities, and it appears from the report to be questionable whether any great amount of good has been obtained in those cases where the disease has been scheduled. "Unfortunately, it is impossible," says Dr. Thorne Thorne, "to point to any one district as having systematically adopted all practicable measures of precaution for the prevention of measles; but the facts recorded go to indicate that in so far as in particular districts the difficulties of the problem have been realised ..... by so far have the results obtained been found encouraging to the sanitary authorities concerned."

The Cholera Survey, which had been commenced in 1892, was continued throughout 1894, in which year thirty port or riparian sanitary districts and 162 inland sanitary districts were inspected as to their general sanitary administration, with especial relation to the danger that might be incurred as the result of any chance cholera brought into their midst. Dr. Thorne Thorne reports with justifiable pride that "not a single death from Asiatic cholera occurred in this country in 1894," although 135 deaths had been caused by it in the previous year. This exceptional experience of 1894 must be regarded with satisfaction by the Board and by the country. Dr. Thorne Thorne quotes three instances from the past history of cholera in which this disease, after traversing Russia and Northern Germany, effected an entrance into English communities. Cholera was introduced into England in 1848, in which year 1105 deaths were attributed to it, followed by 53,293 in 1849. The disease was again introduced in 1853, when 4419 persons fell

[1] No. I. appeared in THE LANCET of July 25th, 1896.

victims to it and 20,097 in the following year. In 1893 it was introduced again and for the last time. In that year 135 deaths were referred to cholera, but not one death was attributed to it in 1894. Without endeavouring to appraise with accuracy what this country owes to the expenditure incurred for sanitary purposes during the period when we were exposed to the test of the late European cholera epidemic, Dr. Thorne Thorne concludes this part of his report with the remark: "I have no hesitation in asserting that the exceptional expenditure incurred in this country during 1893-95, whether by the Central Government or by local authorities, was one which, even from the financial point of view, must be classed as reproductive."

INTERIM REPORT OF THE DEPARTMENTAL COMMITTEE ON DANGEROUS TRADES.

AN interim report of this committee, appointed by Mr. Asquith and reappointed in January last by Sir Matthew White Ridley, has recently been issued. The committee consists of Mr. H. J. Tennant, M.P. (chairman), Mrs. H. J. Tennant (*née* Miss May Abraham), Mr. Thomas Oliver, M.D. Glasg., F.R.C.P. Lond., and Commander Hamilton Smith, one of Her Majesty's inspectors of factories (secretary).

The doings of this valuable committee have up to the present been unavoidably incomplete, for certain additions have been from time to time made to its agenda which in some cases necessitate going over the same ground twice. The present report deals with the following dangerous trades: (1) bronzing in lithographic works; (2) paper-staining, colouring, and enamelling; (3) the use of steam locomotives in factories; (4) indiarubber works; (5) the use of inflammable or spirit paints; (6) dry-cleaning; and (7) the manufacture, filling, corking, &c., of mineral waters. In pursuance of its investigations the committee has visited 134 works and examined 153 persons. The request of Commander Hamilton Smith for fresh persons to volunteer evidence (published in THE LANCET of Jan. 18th, 1896) has it appears been effective in gathering information.

With regard to bronzing in the lithographic trade, a process necessitated by the great demand for illuminated show cards, birthday cards, and the like, much that is instructive, if painful, may be gathered from the report. It seems that in this process while dabbing the metallic powder on to the sized surface of the card the operatives become covered with fine glittering dust. Their eyes, noses, mouths, and hair lodge quantities of it, and when it is considered that this sharp angular powder consists of copper and zinc with, on the average, 0·12 per cent. of metallic arsenic the only wonder is that the trade has not hitherto been reckoned an even more dangerous one. "No specific disease," we are told, "is traceable to bronzing as an occupation. The committee have, however, seen girls, women, and boys literally covered with this dust, who admit that it gets down their neck and under their clothes, that it irritates the skin, that they suffer from headache, constipation, bad taste in the mouth, loss of appetite, extreme drowsiness, lethargy, anæmia, skin eruption, respiratory catarrh, and general malaise." Mr. Archibald Newland, one of Her Majesty's inspectors, states that he has found several cases of slight but distinct copper-poisoning among operatives in this trade. One instance in particular he relates in which a Glasgow "hand" suffering from eruptions from this cause was refused permission by the manager to wear a respirator on the ground that he (the manager) considered the bronze dust quite innocuous.

The recommendations of the committee seem admirable. Overalls should be worn of such a colour as to show the dust and these should be washed once a week; washable and frequently changed respirators should be worn; no food should be eaten in the workrooms; personal cleanliness should be enforced; half a pint of milk should be supplied to each operative twice daily, at 11 A.M. and 4.30 P.M. Further, all "hands" should be examined by the certifying surgeon once a month.

The great danger of the paper-staining trade lies in the lack of proper ventilation, for the temperature of the workrooms is necessarily high. This, added to the dust generated in the processes of "flocking" and "mica dusting"—in which latter process large quantities of finely divided silicate of magnesium enter the air passages—renders this trade most unhealthy, especially to young persons. The recommendations of the committee are much the same in this case as in bronzing, with the additional recommendation of artificial ventilation by means of fans or otherwise. In the indiarubber trade, especially in the matter of making waterproof clothing, &c., the chief danger lies in the inhalation of the vapour of naphtha, in which medium the indiarubber is dissolved, and in the noxious fumes of carbon bisulphide, so largely used in the process of "vulcanising"; the inhalation of naphtha vapour, even when largely diluted, is alleged to produce dizziness and nausea, although, according to Dr. Arlidge, it does not give rise to any definite disease. The committee considers that it undoubtedly tends to undermine the constitution. Carbon bisulphide, according to the evidence of Mr. Rogers, produces "violent headaches, dizziness, and sick-vomiting, and in some persons peripheral neuritis is set up." The dangers of volatile or spirit paints, used on account of their quick-drying properties, and of the processes of dry cleaning (*nettoyage à sec*) chiefly arise from the volatile nature of the benzine compounds used as solvents. Not only is there great danger of fire in both of these trades, but the vapours generated frequently cause dizziness and even insensibility. In the case of inflammable paint the committee recommends that none shall be used the "flash point" of which, by Abel's apparatus, is lower than 100° F.

In the aerated water trade accidents caused by the bursting of bottles during or after the process of filling are frequent. Gauntlets and the careful netting-in of the machines are the remedies suggested by the committee. The practice of licking labels has not been exhaustively dealt with in this report, as the matter is to receive fuller attention when the labeling of cotton reels comes under consideration.

The appendix to the report contains some interesting figures with regard to the diseases prevalent in the indiarubber trade, and a report by Dr. Dupré on various kinds of respirators. The unsatisfactory nature of his conclusions in this matter opens a large field for the ingenuity of inventors.

"No form of respirator," says his report, "has yet been designed to combine lightness, coolness, and ease. On the contrary, its presence makes him [the wearer] breathe faster, get hotter, and perspire more freely."

"WHAT IS HYPNOTISM?"

A MEETING of the Society for Psychical Research was held at the Westminster Town Hall on July 10th, whose proceedings are worthy of report. Professor William Crookes, F.R.S., the President of the society, was in the chair.

Dr. J. Milne Bramwell read a paper entitled "What is Hypnotism?" He commenced by giving a short account of the mesmerists and the controversy between them and James Braid. According to the former, mesmerism was a physical power possessed not only by man but also by magnets and other inanimate objects; according to the latter, the phenomena were purely subjective and resulted from changes in the nervous system, not of the operator, but of the subject. At first Braid's explanation of the phenomena was a purely physical one, and since his day various attempts have been made to explain hypnosis from the same standpoint. Dr. Bramwell gave an account of three of these: 1. The Salpêtrière theory, which explained hypnotic phenomena by the assumption of a morbid nervous condition. This position has been rendered untenable, since very extended statistics have shown that 95 per cent. of mankind at large can be hypnotised and that the most difficult to influence are the hysterical and ill-balanced. Many of the errors of the mesmerists in reference to metals and magnets have been revived by this school and apparently from the same cause—viz., failure to recognise the influence of mental impressions during physical experiments. 2. Heidenhain's theory, which explains the phenomena by a cerebral inhibition, and entirely depends upon the assumption that hypnotic acts are performed unconsciously. The experimental

demonstration of the conscious nature of hypnotic acts robs this theory of all value. 3. The theory of Mr. Hart, which explains the phenomena by means of cerebral anæmia. There are two fatal objections to this view: (1) it has been experimentally proved that cerebral anæmia is absent during hypnosis; and (2) changes in the blood-supply of the brain are not the cause, but the result, of changes in the activity of the nervous matter. Braid's later theories explained the phenomena entirely from a psychical standpoint. He considered the condition essentially one of mono-ideism. This view was adopted by Professor John Hughes Bennett in 1851 and explained physiologically by the assumption of a functional disturbance in the "fibres of association," with resulting suspension of the connexion between the ganglion cells of the cerebral cortex. Psychologically he explained it by "dominant ideas." A suggested idea acquired undue prominence because, owing to the disconnexion between the cerebral ganglion cells, it was unattended by its usual swarm of subsidiary ideas and lacked their controlling influence. The genesis of ideas was not interfered with, only their voluntary synthesis. At a much later date this psychological explanation was adopted by Professor Bernheim. His views differ, however, from those of Braid and Bennett in one important point. The latter pre-supposed a definite change in the nervous system as essential for the production of hypnotic phenomena, the former thinks that the only difference between the hypnotised and the normal subject consists in the increased suggestibility of the former and finds in "suggestion" an explanation of all hypnotic phenomena. Hypnotic phenomena, however, differ frequently in kind as well as in degree from those of the normal state, and the subjects who are most suggestible in hypnosis are generally those who had constantly resisted suggestion in the normal condition. Dr. Bramwell referred at length to Professor Bernheim's view that crime could be successfully suggested to the hypnotised subject, and pointed out that this belief rested upon laboratory experiment and the assumption that the subject was passing through a mental condition similar to that of the operator. A simple and important test had been omitted—namely, that of questioning the subject in hypnosis as to his own mental state. When this was done it was invariably found that the subject fully recognised the imaginary and experimental nature of the suggested crime. Dr. Bramwell held that neither the intelligence nor the volition was necessarily interfered with in hypnosis and that the subjects, instead of being ready to commit crimes, in reality developed increased moral sensitiveness. Dr. Bramwell pointed out that there existed a powerful argument against the explanation of hypnosis by means of mono-ideism or dominant ideas—namely, that a wide range of different phenomena could be simultaneously manifested by the hypnotised subject. The most recent explanation of hypnotism—and apparently the most satisfactory—was to be found in the supposed tapping of some sub-conscious state and the evoking of a secondary personality. According to this view, the hypnotised subject, instead of being a stunted and maimed normal individual, in reality possessed far-reaching powers over his own organism which were not paralleled in the waking state. The researches of Azam and others have demonstrated the existence of alternating personalities without the intervention of hypnosis, while recent hypnotic observations not only show the existence of the alternating personalities but demonstrate also that they co-exist and communicate with each other. Before this theory can be accepted as a complete explanation of hypnotic phenomena an answer must be given to two questions: (1) What is the connexion between hypnotic methods and the production of the sub-conscious state? and (2) How did the secondary personality acquire its rich physical and mental endowments? To the first question, according to Dr. Bramwell, nothing approaching a satisfactory reply has yet been given. An attempt had been made to explain the latter by the assumption that the secondary personality was able to voluntarily control functions which in some lower ancestral form had been performed consciously, but were now, as the result of development, performed automatically. Dr. Bramwell pointed out that there were many objections to this explanation, chiefly in regard to the intellectual phenomena of hypnosis. The increased intelligence and higher refinement of the hypnotised subject could hardly be explained by the assumption that the lost powers of some lower animal type had been evoked

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE annual summer meeting of the above association was held at the Town Hall, Carlisle, on Wednesday, July 29th, Dr. Richard Heath of St. Leonard's, vice-president of the association, being in the chair. A letter of regret from Sir Richard Quain, Bart., President, stating his inability to be present, was read by the secretary.

The Chairman proposed and Sir Charles Cameron seconded: "That the hearty congratulations of the Association be conveyed to Sir William MacCormac on his election as President of the Royal College of Surgeons of England." The resolution was passed with acclamation.

The Chairman next called on the honorary provincial secretary to make a statement as to what had been done since the last summer meeting in reference to the removal of hospital disabilities. The secretary, Mr. J. Stewart, stated that the Council had received and been much encouraged by promises of support from several influential quarters. A long discussion followed, and it was proposed by Sir Charles Cameron and carried unanimously: "That this meeting heartily approves of the resolution of the Council to proceed as soon as possible to obtain the repeal of the rule which prevents Irish diplomates from becoming candidates for honorary hospital appointments in England."

The Chairman reminded the meeting that the members of the profession in England and Wales would shortly be called on to give their votes for direct representatives on the General Medical Council, and that on the last occasion the association gave its support to two of its members—Sir Walter Foster and Dr. Dolan. He understood that the former would not be a candidate at the coming election, but that a life member of the association would be in the field as well as Dr. Dolan. He therefore proposed, and Mr. Somerville Johnston seconded, the following resolution: "That the members of the Irish Medical Schools' and Graduates' Association be invited to support by their votes at the coming election for direct representatives on the General Medical Council Dr. Dolan, J.P. (Halifax), and Dr. Rentoul (Liverpool)." The resolution was supported by Sir Charles Cameron and carried unanimously.

The proceedings terminated with a vote of thanks to the Chairman.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE ordinary comitia of the Fellows was held on June 30th, Dr. S. WILKS, President, being in the chair.

At the commencement of the proceedings the PRESIDENT referred in feeling terms to the great loss sustained by the College in the death of Sir J. Russell Reynolds, and by an unanimous vote he was authorised to convey to Lady Reynolds the condolence and sympathy of the College in her bereavement.

The PRESIDENT announced that Dr. Gowers would deliver the Bradshaw Lecture on Nov. 5th.

The following gentlemen were admitted to the membership of the College: Walter Broadbent, M.A., M.B. Camb.; Samuel Haslett Browne, C.I.E., M.D. Q.U.I.; William Ronaldson Clark, M.B. Aberd.; Wilfred John Harris, B.A., M.B. Camb.; Guthrie Rankin, M.D. Glasg.; Daniel McClure Ross, M.D. Durh.; and George Frederic Still, M.A., M.D. Camb.

Licences were granted to 151 gentlemen who had passed the recent examinations, and diplomas in public health to fifteen candidates.

Attention was drawn by the Censors' Board to the publication of a confidental document which had been circulated among the Fellows, and a recommendation of the board on the subject was unanimously carried.

Communications were read from the Secretary to the Royal College of Surgeons of England communicating the proceedings of its Council.

A communication was read from the University of Durham College of Medicine enclosing a joint communication from the Deans of certain medical schools asking the Conjoint

Board to confer with schools before making important changes in the examinations, and also that at least a year's notice should be given before enforcing such changes. The letter was referred to the committee of management.

Dr. Philipson and Dr. T. Oliver were nominated delegates to the meeting of the Sanitary Institute at Newcastle.

The resignation of his Membership by Dr. W. Wallis Ord owing to his entering on general practice was accepted.

The gift by the London Hospital Medical Council of an autotype portrait of Dr. Hughlings Jackson was accepted with thanks.

Lady Russell Reynolds presented to the College a portrait of Dr. Revell Reynolds, and a silver bowl, the gift of Sir W. Jenner, both bequeathed to the College by the late President, Sir John Russell Reynolds, Bart. The portrait was a copy in oils of one by Abbott. Dr. Revell Reynolds was the grandfather of Sir J. Russell Reynolds and physician to George III. He had been Censor, Registrar, and one of the Elects of the College.

Dr. Theodore Williams presented on behalf of Captain Edward W. Williams a gift of £1000 to commemorate Dr. Francis Bissett Hawkins, who at the time of his death was the Senior Fellow of the College. A vote of thanks was accorded to the donor, and, on the motion of Dr. Theodore Williams, a committee was appointed to consider the most appropriate means of utilising the gift.

On the motion of Dr. Norman Moore, seconded by the Treasurer, it was resolved "that a vote of thanks and the sum of 100 guineas be given to Dr. Munk as an acknowledgment of his services in writing the life of Sir Henry Halford, a work which he undertook at the request of the late President, Sir Andrew Clark, at a College meeting."

The list of College officers and examiners nominated by the President and Council was then submitted, and after ballot the Fellows proposed were declared duly elected as follows:—Censors: William Selby Church, M.D., William Cayley, M.D., Henry Charlton Bastian, M.D., F.R.S., and Joseph Frank Payne, M.D. Treasurer: Sir Dyce Duckworth, M.D. Emeritus Registrar: Sir Henry Pitman, M.D. Registrar: Edward Liveing, M.D. Harveian Librarian: William Munk, M.D. Elected Members of the Library Committee: Samuel Jones Gee, M.D., Philip Henry Pye-Smith, M.D., F.R.S., Norman Moore, M.D., and William Henry Allchin, M.D. Curators of the Museum: William Howship Dickinson, M.D., Henry Charlton Bastian, M.D., F.R.S., William Cayley, M.D., and Norman Moore, M.D. Finance Committee: Alfred Baynard Duffin, M.D., George Vivian Poore, M.D., and Frederick Taylor, M.D. Examiners: *Chemistry and Chemical Physics*—William Ramsay, F.R.S., Wyndham Rowland Dunstan, F.R.S., John Millar Thomson, F.C.S., Samuel Rideal, D.Sc., and Richard Tayler Plimpton, Ph.D.; *Materia Medica and Pharmacy*—Nestor Isidore Charles Tirard, M.D., Sidney Philip Phillips, M.D., Hector William Gavin Mackenzie, M.D., Frederick Willcocks, M.D., and Francis George Penrose, M.D.; *Elementary Physiology*—Henry Lewis Jones, M.D.; *Physiology*—Vincent Dormer Harris, M.D., William Dobinson Halliburton, M.D., F.R.S., and John Wychenford Washbourn, M.D.; *Anatomy*—Charles Stonham, F.R.C.S., and George Dancer Thane, M.R.C.S.; *Medical Anatomy and Principles and Practice of Medicine*—Isaac Burney Yeo, M.D., George Vivian Poore, M.D., John Mitchell Bruce, M.D., Frederick Taylor, M.D., Stephen Mackenzie, M.D., Horatio Bryan Donkin, M.D., Sidney Coupland, M.D., William Ewart, M.D., Julius Dreschfeld, M.D., and Seymour John Sharkey, M.D.; *Midwifery and Diseases peculiar to Women*—John Baptiste Potter, M.D., James Watt Black, M.D., Peter Horrocks, M.D., Walter Spencer Anderson Griffith, M.D., and William Radford Dakin, M.D.; *Surgical Anatomy and Principles and Practice of Surgery*—John Langton, F.R.C.S., and John Neville Colley Davies-Colley, F.R.C.S.; *Public Health*—(Part I.) Thomas Stevenson, M.D., and (Part II.) William Pasteur, M.D.

On the motion of Dr. Broadbent, Senior Censor, seconded by Dr. Pye-Smith, a hearty vote of congratulation was passed to the President on his appointment as Physician Extraordinary to Her Majesty the Queen.

Reports were received from the representative to the General Medical Council and from the various committees of the College. That of the Library Committee contained mention of the gift by Miss Greenhill of the MSS. of her father, the late Dr. Greenhill, forming material for a lexicon to Galen's works.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On an Outbreak of Poisoning by Potted Meat at Mansfield, by Dr. G. S. BUCHANAN.—Early this year Mr. Wills reported the occurrence of this outbreak, and by his aid it was investigated by Dr. Buchanan on behalf of the Local Government Board. Altogether no fewer than 265 persons were attacked in Mansfield, Bolsover, Pleasley Vale, and Warsop, the symptoms varying from mere gastro-enteric disturbances to similar signs accompanied by rigor, a temperature of 104° F., acute abdominal pain, profuse diarrhœa, and alarming collapse. One thing only was in common in the cases of all these persons—they were attacked within a period varying from about six hours to forty-eight hours after having purchased directly or through local agents potted meat from a Mansfield manufacturer. Of 279 persons ascertained to have eaten this potted meat not more than 14 could be said to have escaped. In not a few households all who had partaken of it were attacked and all who had not eaten it escaped. Certain persons attacked in households into which potted meat had not been introduced were found in each instance to have consumed the potted meat elsewhere. And in each of the localities where the potted meat had been distributed the illness only occurred amongst persons who had consumed it. These points are convincingly proved by the details given in Dr. Buchanan's report, and he further shows that the mischievous quality which this potted meat possessed must have been acquired subsequently to the actual process of its manufacture. In seeking the cause, the position of the shop, its appliances, the health of the animals from which the meat came, the cleanliness of the articles receiving it, and other matters all come under discussion. The making of the gravy and of a certain colouring matter called "Indian Red" also came in for careful inquiry. Dr. Klein and Dr. Chattaway examined all these materials bacteriologically and chemically. As to the potted meat, Dr. Klein found that every specimen contained microbes in altogether unusual and remarkable amount, the most abundant being proteus vulgaris and bacillus coli. At last suspicion came to attach itself somewhat prominently to the colouring matter, but no chemical proof of mischief could be made out. It must, however, be remembered that since the leading micro-organisms found have the habit, during their life-processes, of habitually forming an acid, it is quite possible that the hypothetical organism which led to this mischief was, as time went on, now fostered, now inhibited, as the result of chemical changes in the potted meat, and that this may account for the great dissimilarity in severity of the symptoms in different people. But no organism which in the ordinary sense can be considered to possess specifically infective properties was detected; and in this way this outbreak differs from former ones that have been investigated by Dr. Ballard and others. But both bacillus proteus and bacillus coli decompose albuminous substances into poisonous products, and either might thus, under exceptional conditions, itself manufacture such products within the human body in such a way as to cause symptoms of poisoning. This is the conclusion to which the report obviously leads us; and it is suggested that the introduction of the Indian red of strong alkalinity simultaneously with the potted meat and its contained bacilli into the digestive apparatus may have had a potent influence in bringing about the results described.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Essex County Council.—Dr. Thresh, in the introduction to his annual report for 1895, draws attention to the general order of the Local Government Board relating to duties of medical officers of health, in which it is directed that at the same time any special report is forwarded to the Board in question a copy of it shall be despatched to the county council of the county in which the district is situated. This latter direction is, Dr. Thresh observes, often overlooked by the local health officers. The general death-rate of Essex (17·0 per 1000) was during 1895 lower by 1·7 per 1000 than that of England and Wales, but the difference is not so great

as in former years, a fact which is attributed to the excessive rates in the urban districts of the county. The infantile mortality was a high one for Essex, being 133 per 1000 births as against 120, the mean for the former years 1890–94. Dr. Thresh regrets that the question of infantile mortality has received so little attention in the county; the rate varies enormously in different districts, and Dr. Thresh observes that child mortality is a much better index of the general sanitary well-being of a district than the general death-rate. Under the heading of small-pox Dr. Thresh furnishes some extracts from the district reports which cannot fail to possess a certain attraction in a speculative sense for our readers. Here is one which relates to a case occurring at East Ham: "The girl went to Purfleet on Bank Holiday and was rowed in a boat round the small-pox ships at Darenth, and twelve days after the girl sickened with small-pox." The medical officer of health for the Orsett Rural District reports that of 12 notified cases 11 were in West Thurrock, and he states that four sources of possible infection were investigated—i.e., the hospital ships opposite Purfleet, the paper factory, the refuse from the Kensington dustbins, and the number of excursionists to the locality during the summer months. Of all these sources Mr. Rea Corbet thinks that the hospital ships, 600 yards from the nearest cottage, are the most suspicious. The disease in no instance arose amongst the rag-sorters; many cases of small-pox occurred before the dustbin refuse was brought to the district. The number of excursionists is, he thinks, a possible but a doubtful source of infection. It seems that in the districts abutting upon the Thames near the hospital ships suspicion has existed for many years that these ships are potent for harm, but the suspicions do not seem to be founded at present upon sufficiently well attested evidence. Essex still maintains its "unenviable notoriety" for possessing the highest death-rate from diphtheria of any county in England and Wales, and we are glad to hear that Dr. Thresh is collecting material for a special report upon the subject. In commenting upon the value of bacteriological examination in cases of diphtheria Dr. Thresh utters a word of caution in regard to negative evidence, and he points out that in quite 10 per cent. of cases of true diphtheria a single cultivation may fail to reveal the specific organisms, and he also observes that cases which are clinically indistinguishable from diphtheria may end fatally and the organism associated with the disease may never be found. Oysters do not appear to have been without some influence in the causation of enteric fever in Essex and instances in which they were a probable cause are recorded in some districts. Dr. Thresh refers again, and in sorrow more than anger, to the difficulties which the sect of "Peculiar People" place in the way of proper sanitary administration. It seems that these people are, as a general rule, extremely kind to their children and that they are willing to do anything except what is opposed to their religious beliefs.

Newcastle Urban Sanitary District.—Dr. Henry Armstrong embodies in his current annual report a special report on the milk-supply of Newcastle. By a careful calculation of all the sources of supply to, and within, the city Dr. Armstrong was able to arrive at the grand annual total of 1,977,752½ gallons, and on the purchase of this amount no less than £131,850 3*s.* 4*d.* was expended. There are in Newcastle 73 cow-houses, the majority of which are clustered together in four different localities, and, taking as a standard 800 cubic feet of space per cow, it was found at the time of inspection that 65 per cent. of the cow-houses were overcrowded. Of places for the sale of milk by retail in Newcastle there are 488, but in addition to these there are sundry street hawkers who seem to regard themselves as keeping neither a "dairy" nor a "milkshop." By the provision of a local Act it is enacted that "every dairyman occupying any dairy or supplying milk in the city shall notify to the corporation all cases of tuberculosis or milk fever occurring in his dairy," but Dr. Armstrong reports that no case has been notified and the section remains inoperative. In the matter of adulteration it is satisfactory to learn that during the last four years the percentage of adulterated samples to samples taken for analysis has fallen from 9·8 to 3·3, the amount of adulteration during the same period ranging from a minimum of 4·5 per cent to a maximum of 30 per cent., the mean adulteration on the diluted samples for the three years 1891–93 being 13·6 per cent. Dr. Armstrong, in concluding his very interesting report, refers to the necessity of controlling the sale of tuberculous milk by testing the milch cows with tuberculin, and advises among other measures that the sanitary authority should be kept informed by milk retailers of the names and addresses of all persons from whom they receive their milk-supply. It is also advocated that there should be an extension of the provisions as regard milk-control which are contained in the Infectious Diseases (Prevention) Act, 1890, and, lastly, that the sanitary authorities of districts supplying milk should report to the sanitary authority of the districts supplied upon the sanitary condition of the farm, &c., and that they should also in like fashion notify infectious disease.

Oldham Urban District.—Mr. Charles Tattersall, after duly considering all the facts, estimates the population of Oldham to the middle of 1895 at 136,543, as against the Registrar-General's estimate of 141,079. The infantile mortality was a high one, and tends to increase rather than diminish, in spite of the fact that the birth-rate is steadily falling. Mr. Tattersall thinks that the tendency to feed children in an unnatural manner is not so much the result of any increase in the employment of women in industrial pursuits as a desire for freedom from maternal ties. There were in Oldham 137 cases of small-pox during 1895, and Mr. Tattersall has gone very thoroughly into them. The fatality rate among the vaccinated at all ages was 12·8 per cent. as against 30·5 per cent. among the unvaccinated. Among 261 vaccinated persons who were exposed to small-pox 18 or 6·9 per cent. contracted the disease, while of 23 unvaccinated persons similarly exposed 12 or 52·1 per cent. were attacked. A table is given in the reports before us showing the value of vaccination and revaccination after exposure to small-pox. Among those vaccinated up to and including two days after exposure there were no cases of the disease, while of those vaccinated three days after exposure 25 per cent. were attacked, and of those four days 50 per cent. Among the vaccinated cases ten years of age there were 2 cases trivial, 5 discrete, and 1 confluent, while among the unvaccinated at the same age period were 10 discrete, 15 confluent, and 2 hæmorrhagic. There were in all 165 revaccinated persons, including the staff of the fever hospital, who were exposed to small-pox, and out of this number not one contracted the disease. During 1895 there were eight deaths from puerperal fever in Oldham, but it appears that only five cases of the disease were notified. Mr. Tattersall thinks that many medical practitioners are anxious to escape from notifying the disease owing to the inconvenient consequences which may ensue. The new small-pox hospital, which has been erected in consequence of the disastrous results which attended the use of the Westhulme Fever Hospital for the isolation of that disease, is now in use, and the sanitary authority are to be congratulated on the promptitude with which they secured a second site when the first one was opposed by the Saddleswaite district council. It is now proposed to improve and extend the Westhulme Fever Hospital, for since acute small-pox is treated elsewhere there is no objection to it as a fever hospital. Cases of poisoning from the use of lead service-pipes occurred in Oldham during 1895, and Mr. Tattersall has been investigating the matter. He advises that in order to reduce the solvent power of the water with regard to lead it should be delayed in transmission by interception in settling tanks, as this process has been found to much reduce the acidity of the water. Mr. Tattersall expresses an opinion against the usefulness of the pipes called tin-lined.

Stirling County District.—With his customary lucidity Dr. J. C. McVail records an explosive outburst of enteric fever which occurred in August and September of 1895 at Fintry, a village with a population of 150, which is situated in a valley to the north of Campsie Fells. The outbreak lasted altogether from Aug. 21st to Sept. 18th, and involved in all 13 houses and 22 persons, but the majority of the cases occurred between Aug. 21st and 26th, and in all probability those which occurred after Sept. 4th were secondary to the original cases. The outbreak was traced by Dr. McVail to the consumption of infected milk from a dairy which, owing to the fact that only one cow was kept there and that the trade was a small one, was not registered. At this dairy the milk store contained a bed, and was, moreover, in direct communication with a bedroom in which a lodger slept. The disease occurred in the family of the dairyman who supplied the infected milk simultaneously with the other cases, so that the illness in the dairyman's family was not sufficient to explain the outbreak. It seems, however, that the dairyman's family visited on a certain day persons who had recently been discharged from the Belvedere Hospital after

having been isolated there for enteric fever, and it seems on the whole that either the discharged patients or some infected article they may have possessed was instrumental in starting the outbreak, and that the dairyman's family conveyed back to the dairy infected matter of some sort. Be this as it may, it was established that infected milk was the cause of the outbreak, and this thesis for the infection of the milk is one which explains the phenomenon observed. Dr. McVail took most energetic steps to stem the outbreak and procured in a very short time isolation and administration accommodation. As he rightly observes, it is a most difficult matter to nurse enteric fever patients in the cottages of the poor. The outbreak teaches, Dr. McVail remarks, the necessity for the registration of even the smallest milk vendors in order that their operations may be inspected and controlled.

Dumfries County District.—Dr. Maxwell Ross, the county medical officer, in referring to the pollution of the River Annan by the unpurified sewage of Moffat, states that since the notification of infectious disease has been in force cases of typhoid fever have come to his knowledge which have not unlikely been caused by the consumption of the polluted water of the river, and he advises the district committee to insist that unpurified sewage shall not be discharged into the river. Measles was epidemic in part of the county during 1895, and as a consequence of the heavy charges to be paid for notification two of the district committee have asked that the order which added measles to the list of notifiable diseases should be rescinded. We cannot help thinking there is something rather ludicrous in this position, and it is difficult to understand how any good can ever result from notification under circumstances such as these. It seems, however, that the county medical officer has in the past been required to visit all such cases of measles as have not been notified by a medical man, and apparently he has found some difficulty in acting up to the letter of his instructions, while in not a few cases the parents expected medical advice from him. Surely these are novel duties to impose upon a county medical officer of health, and we are not surprised that Dr. Ross is not altogether opposed to the revocation of the measles order.

Dumbarton County District.—In a certain locality in this district there is, Dr. McVail states, a strong suspicion locally that traffic in manure is causing enteric fever, and he points out that although there is a clause in the Public Health Bill which deals with the subject it relates only to uncovered trucks and waggons. As, however, the chief nuisance arises during unloading it is difficult, Dr. McVail observes, to understand how any provision of this kind will do much to prevent the wind from carrying the lighter and dryer material about at sidings, &c. It is certainly difficult to control this manure traffic efficiently—a fact which is sufficiently obvious in many places around London.

Bournemouth Urban Sanitary District.—Mr. P. W. G. Nunn reports that in Bournemouth trouble sometimes arises from the presence of the foul-smelling fungus known as stinkhorn, which belongs to the order of the Phalloidei. It is found growing in the pine woods, where by virtue of its foul odour it attracts hosts of flies. The smell has, it appears, often been attributed to drains.

Durham County Sanitary District.—Dr. Eustace Hill in his last quarterly report considers the subject of uncertified deaths. In certain districts of Durham there are, he tells us, a large number of deaths uncertified, due to the fact that the patients were attended by unqualified persons. In one locality, for instance, no less than 33 per cent. of the deaths were uncertified owing to this cause, and Dr. Hill points out that it is a somewhat surprising circumstance that among those attended by unqualified practitioners the number of deaths under one and under five years of age in relation to the total death-rate of those so attended is much in excess of that among those attended by properly qualified practitioners. Dr. Hill also draws attention to the manner in which unqualified practice is calculated to diminish the value of compulsory notification inasmuch as there is no obligation upon unqualified practitioners to notify. The prosecution of unqualified practitioners under the Medical Act has not been attended with much success in Durham, and Dr. Hill thinks that the coroners should inquire officially into every death uncertified as a result of unqualified practice. He suggests that the attention of the Local Government Board and the General Medical Council be drawn to the fact that the percentage of uncertified deaths in the county of Durham is twice as high as that of England and Wales, and that non-certifying is due in large part to the employment of unqualified practitioners.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6633 births and 5081 deaths were registered during the week ending Aug. 1st. The annual rate of mortality in these towns, which had increased in the five preceding weeks from 16·9 to 24·8 per 1000, declined again last week to 24·4. In London the rate was 24·3 per 1000, while it averaged 24·5 in the thirty-two provincial towns. The lowest rates in these towns were 12·2 in Bristol, 15·1 in Huddersfield, 16·4 in Derby, and 17·3 in Bradford; the highest rates were 29·8 in Birmingham, 31·2 in Hull, 31·6 in Sunderland, 32·2 in Liverpool, and 33·2 in Salford. The 5081 deaths included 1561 which were referred to the principal zymotic diseases, against 1152 and 1593 in the two preceding weeks; of these, 1135 resulted from diarrhœa, 154 from measles, 108 from whooping-cough, 66 from diphtheria, 53 from scarlet fever, 45 from "fever" (principally enteric), and not one from small-pox. The lowest death-rates from these diseases were recorded in Bristol, Swansea, Huddersfield, and Bradford, and the highest rates in Portsmouth, Birmingham, Leicester, Salford, and Sunderland. The greatest mortality from measles occurred in West Ham, Plymouth, Portsmouth, Brighton, Hull, and Manchester; from scarlet fever in Cardiff, Leicester, and Salford; from whooping-cough in Croydon and Nottingham; from "fever" in Norwich; and from diarrhœa in Wolverhampton, Birmingham, Leicester, Liverpool, Salford, Preston, and Sunderland. The 66 deaths from diphtheria included 43 in London, 3 in Birmingham, and 3 in Birkenhead. No fatal case of small-pox was registered in any of the thirty-three large towns. There were 28 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 1st inst., against 47, 40, and 37 at the end of the three preceding weeks; no new cases were admitted during the week, against 11, 0, and 6 in the three preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 3279, against 3088, 3161, and 3207 on the three preceding Saturdays; 360 new cases were admitted during the week, against 319, 320, and 321 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 165 and 153 in the two preceding weeks, further declined to 142 last week, and were 40 below the corrected average. The causes of 60, or 1·2 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Oldham, Bradford, Leeds, and Newcastle-upon-Tyne; the largest proportions of uncertified deaths were registered in Birmingham, Leicester, Nottingham, Preston, and Huddersfield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·1 and 18·3 per 1000 in the two preceding weeks, declined again to 17·6 during the week ending August 1st, and was 6·8 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 12·1 in Paisley and 15·2 in Edinburgh to 19·4 in Glasgow and 23·6 in Greenock. The 514 deaths in these towns included 41 which were referred to diarrhœa, 33 to measles, 10 to whooping-cough, 6 to "fever" (principally enteric), and 3 to scarlet fever. In all, 93 deaths resulted from these principal zymotic diseases, against 121 and 110 in the two preceding weeks. These 93 deaths were equal to an annual rate of 3·2 per 1000, which was 4·3 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had increased from 25 to 57 in the three preceding weeks, declined again to 41 last week, of which 23 occurred in Glasgow, 6 in Edinburgh, and 4 in Dundee. The deaths referred to measles, which had been 39 and 25 in the two preceding weeks, rose again to 33 last week, of which 28 occurred in Glasgow, 2 in Edinburgh, and 2 in Dundee. The 10 fatal cases of whooping-cough

showed a further decline from the numbers recorded in recent weeks, and included 8 in Glasgow. The deaths referred to different forms of "fever," which had been 9 and 3 in the two preceding weeks, rose again to 6 last week, of which 4 occurred in Glasgow and 2 in Edinburgh. The 3 fatal cases of scarlet fever corresponded with the number registered in the preceding week. The deaths referred to diseases of the respiratory organs in these towns, which had been 66 and 61 in the two preceding weeks, rose again to 68 last week, but were 9 below the number in the corresponding week of last year. The causes of only 3, or 0·6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 26·7 and 23·7 per 1000 in the two preceding weeks, rose again to 27·4 during the week ending Aug. 1st. During the past five weeks of the current quarter the death-rate in the city has averaged 25·8 per 1000, the rate during the same period being 22·2 in London and 15·9 in Edinburgh. The 184 deaths registered in Dublin during the week under notice showed an increase of 25 upon the number in the preceding week, and included 31 which were referred to the principal zymotic diseases, against 34 and 43 in the two preceding weeks; of these, 22 resulted from diarrhœa, 3 from whooping-cough, 2 from scarlet fever, 2 from diphtheria, and 2 from "fever." These 31 deaths were equal to an annual rate of 4·6 per 1000, the zymotic death-rate during the same period being 7·4 in London and 2·1 in Edinburgh. The fatal cases of diarrhœa, which had increased in the seven preceding weeks from 1 to 39, declined again to 22 last week. The deaths referred to whooping-cough, which had been 7, 4, and 3 in the three preceding weeks, were again 3 last week. The mortality from scarlet fever and from "fever" exceeded that recorded in the preceding week. The 2 fatal cases of diphtheria were the first registered since June last. The 184 deaths in Dublin last week included 51 of infants under one year of age, and 37 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a further increase upon those recorded in recent weeks. Seven inquests cases and 2 deaths from violence were registered; and 52, or nearly a third, of the deaths occurred in public institutions. The causes of 16, or nearly 9 per cent., of the deaths in the city last week were not certified.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A MEETING of the Council was held on Aug. 4th, the President, Sir WILLIAM MACCORMAC, being in the chair.

On the recommendation of the Committee of General Purposes the Council resolved to have the theatre reconstructed and to have the ventilation improved.

The statements of receipts and expenditure and the balance sheet were approved and adopted. We hope to refer later at more length to these.

The Council approved of the form of the circular relating to the direct representation of Members on the Council, and it will be sent to the Fellows of the College on Oct. 1st. It was resolved that the annual meeting of Fellows and Members be held at the College on Thursday, Nov. 19th next, at 3 o'clock P.M.

The library of the College will be closed during the month of September.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-MAJORS LAMPREY and McGILL, Surgeon-Captains Keatly and Walker, and Surgeon-Lieutenants Tibbits, Green, and A. C. Fox have been placed under orders for service in India. Surgeon-Captain D. M. O'Callaghan has been ordered to proceed to the Cork District for duty on termination of the manœuvres.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of the undermentioned officers are placed permanently at the disposal of the Government of Bengal:—Surgeon-Captain J. G. Jordan, Surgeon-Captain A. H. Nott, and Surgeon-Captain J. T. Calvert. Brigade-Surgeon-Lieutenant-Colonel G. Hutcheson, Sanitary Commissioner, North-Western Provinces and Oudh, is appointed to officiate as Administrative Medical Officer and Sanitary Commissioner, Central Provinces, during the absence on deputation of Surgeon-Colonel J. H. Newman, or until further orders. The services of Surgeon-Captain E. Hudson (Bengal), are placed permanently at the disposal of the Government of the North-Western Provinces and Oudh. Surgeon-Captain S. H. Henderson, Officiating Superintendent, Central Prison, Agra, is confirmed in that appointment, vice Surgeon-Lieutenant-Colonel G. C. Hall, appointed Inspector-General of Prisons, North-Western Provinces and Oudh. Surgeon-Captain W. Young, Officiating Civil Surgeon, Mainpuri, officiates as Superintendent, Central Prison, Farukhabad.

NAVAL MEDICAL SERVICE.

The following appointments are notified:—Staff-Surgeon Leonard H. Kellett to the *Hawke* when re-commissioned. Surgeons: Bernard B. Gilpin to the *Hawke* when re-commissioned; Edward R. D. Fasken to the *Polyphemus*; and George B. Barrett to the *Melita*.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain William Mitchell Roocroft, 1st Volunteer Battalion the Manchester Regiment, to be Surgeon-Major.

VOLUNTEER CORPS.

Royal Engineers: 1st Gloucestershire: Surgeon-Lieutenant G. H. Ward-Humphreys to be Surgeon-Captain. *Rifle:* 1st (Brecknockshire) Volunteer Battalion the South Wales Borderers: Surgeon-Lieutenant Thomas to be Surgeon-Captain. 3rd Volunteer Battalion the Queen's Own (Royal West Kent Regiment): Surgeon-Lieutenant G. L. Cheatle resigns his commission. 18th Middlesex Volunteer Rifle Corps: Charles John Beattie to be Surgeon-Lieutenant.

VISIT OF THE COMMANDER-IN-CHIEF TO NETLEY.[1]

On Friday, July 31st, Lord Wolseley paid his first visit to the Royal Victoria Hospital, Netley, where he unveiled a portrait of Surgeon-General Sir Joseph Fayrer, Bart., K.C.S.I. Among those present were Surgeon-Major-General Jameson, Director-General; Surgeon-Major-General C. H. Giraud, Principal Medical Officer at Netley; Surgeon-Major-General Markey; and Sir William MacCormac, President of the Royal College of Surgeons of England.

We give below a list of the prize winners who received from the Commander-in-Chief their rewards on the same occasion.

The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows. Surgeons on probation of the Medical Staff of the British Army, and of the Indian Medical Service, who were successful at both the London and Netley examinations:—

BRITISH MEDICAL SERVICE.

	Combined marks.		Combined marks.
E. T. F. Birrell	5255	A. J. MacDougall	4072
*E. W. W. Cochrane	4800	R. W. Clements	3994
A. H. Morris	4372	M. Swabey	3873
G. B. Riddick	4152	H. Hewetson	3793
S. A. Archer	4114		

INDIAN MEDICAL SERVICE.

	Combined marks.		Combined marks.
†H. Walton	5807	H. R. Brown	4439
‡H. Ainsworth	5606	W. G. Richards	4435
*A. E. H. Pinch	5010	S. P. James	4357
H. A. D. Dickson	4960	A. N. Fleming	4313
J. S. Stevenson	4940	P. Dee	4307
F. A. Smith	4915	F. O. N. Mell	4186
J. W. Cornwall	4791	S. D. Brown	4153
A. Miller	4561	M. Dick	4151
F. A. L. Hammond	4472		

* Gained the Parke's Memorial Medal.

† Gained the Martin Memorial Medal and the first Montefiore Prize of 20 guineas.

‡ Gained the Maclean Prize for Clinical and Ward Work, and a Prize in Pathology.

§ Gained the Herbert Prize of £20, the Prize in Pathology presented by Surgeon-General Sir Joseph Fayrer, Bart., K.C.S.I., and the de Chaumont Prize in Hygiene, and the second Montefiore Prize.

[1] Pressure on our space this week prevents us from reporting the proceedings in detail, but next week we hope to give our readers a full report.

VOLUNTEER MEDICAL ASSOCIATION: AMBULANCE CHALLENGE SHIELD COMPETITION, 1896.

The annual competition took place at Wellington Barracks on July 18th, 1896. Eight squads competed and were thoroughly tested in each of the four departments into which the examination was divided. Two examiners in conjunction took charge of each department as follows: Stretcher drill: Surgeon-Major Grier, Instructor, A.M.S., Aldershot, and Surgeon-Captain J. Edward Squire, M.D., V.M.S.C. Bandaging: Surgeon-Lieutenant-Colonel M. Baines, V.D., V.M.S.C., and Surgeon-Lieutenant R. Fletcher, V.M.S.C. First aid: Surgeon-Major Hurst, V.M.S.C., and Surgeon-Lieutenant R. Handfield-Jones, V.M.S.C. Anatomy: Surgeon-Major Collingridge, V.M.S.C., and Surgeon-Captain Valentine Matthews, V.M.S.C. The competition resulted in the competing squads being placed in the following order of merit:—

Regiment.	Drill (100).	Bandaging (100).	First aid (60).	Anatomy (40).	Total (300).
*1st V.B. Highland L.I.	91	87	56	30	264
12th Middlesex (Civil Service)	84	88	49	32	253
2nd V.B. Royal Fusiliers	85	83	42	32	242
2nd V.B. Border Regiment	77	55	58	32	222
1st Wilts R.V.C.	88	57	43	30	218
3rd V.B. Royal Warwick	75	60	47	28	210
3rd V.B. Hants (D.C.O.)	69	83	32	25	209
1st V.B. Somerset L.I.	62	63	23	29	177

* This regiment won first place in 1895 with 274 marks out of a possible 300.

The annual mess dinner of the volunteer medical officers took place after the competition at Limmer's Hotel.

THE NATIVE RISING IN RHODESIA.

The news from Rhodesia, consisting as it does of a number of details regarding the fighting, raids, and skirmishes that have taken place, is very difficult of brief analysis and condensation. The great obstacle is connected with the supply of food and forage. Sir F. Carrington would, no doubt, be glad of a considerable addition to his available force but for this difficulty. It does not look as if the rebellion were likely to be peremptorily crushed for the Matabeles avoid all big gatherings, but they are defeated with much loss wherever they are encountered and their food-supplies must be fast diminishing. We hear remarkably little of the hospital service and the surgery of the campaign in Rhodesia, presumably for the simple reason that everybody is too much occupied with what is going on.

Surgeon-Major-General James Sinclair, M.D., retired pay, has been appointed to be Honorary Physician to the Queen, vice Director General Sir T. G. Logan, K.C.B., M.D., deceased.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—The annual meeting of the society was held on July 22nd, Dr. F. R. Mutch, President, being in the chair. The reports of the treasurer, librarian, and secretaries for the past year were received and adopted. The following officers were elected for the ensuing year:—President: Dr. W. B. Ransom. Vice-presidents: Dr. F. R. Mutch and Dr. C. H. Cattle. Treasurer: Mr. T. Geraty. Council: Mr. A. R. Anderson, Mr. T. D. Pryce, Mr. C. MacMillan, Dr. A. E. Nuttall, Dr. F. Rothera. Librarian: Mr. W. J. Stephens. Secretaries: Dr. W. E. Tressider and Dr. E. C. Kingdon. Library Committee: Dr. W. G. Laws, Mr. H. E. Belcher, Mr. J. Mackie, Dr. F. W. Wesley. Pathological Committee: Mr. C. W. Milner, Dr. J. Millar, and Mr. E. Ringrose. The following vote of thanks was accorded. "It was unanimously agreed that the best thanks of the Nottingham Medico-Chirurgical Society be given to Dr. C. H. Cattle for the indefatigable manner in which he has carried out the duties of the post of secretary for a period of six years." It was further agreed that a subscription list should be opened for the purpose of presenting Dr. C. H. Cattle with a suitable testimonial on the occasion of his resignation of the post of secretary.

Correspondence.

"Audi alteram partem."

THE GENERAL MEDICAL COUNCIL: CRITICS AND CANDIDATES.

"*Semper ego auditor tantum? nunquamne reponam,*"

To the Editors of THE LANCET.

SIRS,—The arts of candidature and of criticism, in relation to the General Medical Council, have lately been illustrated by several remarkable examples, in some of which the existing members of the Council have been treated, if not with undue severity, at least without any pretence or semblance of indulgence. We have all learned from Mr. Terry that "Worms has a habit of turning"; and, when reading the printed matter which the impending elections into the Council have called forth, the question which I have used as a motto for this letter has more than once floated across my memory. At last I have come to reply to it in the negative. For nearly ten years I have had the honour of a seat in the Council, and have enjoyed opportunities of becoming acquainted with its powers, its duties, and the conduct of its business, so that I naturally feel interest in opinions publicly advanced by gentlemen, some of whom, before long, it may be my privilege to meet as colleagues in the assembly which they desire to enter. I cannot but confess that the printed matter to which I have referred leaves me much in the dark as to the means by which some of the candidates expect to accomplish the objects which they profess to have in view.

I trust I shall not be looked upon as a hopeless reactionary if I say at the beginning that I have no sympathy with the wish for increased direct representation. If the General Medical Council had powers and duties totally different from those which actually appertain to it, then not only an increase, but even a totality, of direct representation might be desirable. As matters stand, a claim for direct representation on the part of students, the conditions of whose admission to the Medical Register are largely influenced by the Council, or on the part of parents, who provide the funds by which the Council carries on its work, would be far more reasonable than such a claim on the part of registered practitioners, who contribute nothing to the resources of the Council, and who only come under its jurisdiction in the character of accused or of convicted persons. I have never heard it maintained that suspected criminals, or even that plaintiffs and defendants in civil actions, ought to have direct representation in the jury box or on the judicial bench; and I have always looked upon the grant of such representation in the Council as a foolish concession to agitators, made by politicians who were utterly careless about and utterly ignorant of the real merits of the question at issue. The enlargement of the Council caused by direct representation was attended by the loss of the highly important power of electing a President from without—that is to say, of selecting him from the whole profession; and the only redeeming feature of the new fangle, as far as I have seen, has been furnished by the high character and the conspicuous ability of the gentlemen on whom the suffrages of the electors have so far been bestowed. Unfortunately we have no security that this feature will be permanent. We have heard from Dr. Glover that less than 60 per cent. of the voting papers issued at the last election were returned to the Registrar; and such abstention not only indicates the indifference of many thousand practitioners, but also affords great encouragement to the electioneering enterprises of agitators. I regard agitators in general with an abhorrence which I think is justified alike by ancient and by contemporary history and which is strongest when they belong to my own calling, on which their proceedings can scarcely fail to bring discredit. On their account chiefly, and for their more complete discomfiture, I earnestly hope that there will be no similar abstention at the coming election, but that the abundant shrewdness of the profession will find complete and accurate representation at the poll.

Let us "clear our minds of cant," and consider the purposes for which the Council was established. Prior to 1858 a medical qualification conferred legal privileges only in the

division of the United Kingdom in which it was granted. The first Medical Act extended these privileges to the other two divisions also; and it became necessary to devise some means of securing that, wherever obtained, a qualification should represent approximately the same kind of education and the same amount of knowledge. The Medical Council was the outcome of this requirement, and it was constituted mainly of representatives of licensing bodies, in order that these bodies might be consenting parties to its recommendations, and so might morally be bound by them. Six "Crown" members were added for the protection of the public against undue concessions on the part of the several licensing bodies towards each other, and the Council, thus formed, was permitted to choose its president from without. Originally, by the Act of 1858, it was empowered to supervise medical education and examination, and to represent to the Privy Council that any given curriculum of medical education, or any given examination, was "insufficient"; but, having done this, it could take no further action, and the power to disallow the curriculum or the examination rested with the Privy Council alone. The Council received authority to keep a Register, and to remove from this Register persons who were convicted of certain offences or who were found by the Council itself to have been guilty of "infamous conduct in a professional respect." It was also directed to prepare and issue a Pharmacopœia; but beyond these limits it had neither powers nor duties.

In 1886 the Council was enlarged by the addition of "direct representatives," but was deprived of the privilege of going outside its own body for its president. It received power to represent to the Privy Council, in case of need, (*a*) the expediency of giving a representative to some licensing body not already provided with one; (*b*) the expediency of giving to two or more bodies separate instead of combined representation; (*c*) the expediency of giving an additional (direct) representative to the registered medical practitioners of any division of the United Kingdom; and (*d*) the expediency of depriving any licensing body of representation, either wholly or by combining it for the purpose with some other. Here again its powers and duties terminated.

Exceptio probat regulam is an elementary legal maxim, and it means, not what it is often supposed to mean, but simply that the mention of an exception in an Act of Parliament or other legal document implies the existence of a rule to the contrary effect. The (exceptional) power conferred on the Council of "representing" certain things proves that it has no right to make representations *de omnibus rebus*. It has simply to transact its business and to discharge its duties. Every one who is conversant with those duties knows that it would be impossible, and useless if it were possible, for the Council to engage in academic discussions about matters with which it has no official concern. After mastering this outline of the position it becomes somewhat less interesting to know that one candidate for election, who is dissatisfied with much that goes on around us, has put forward a list of seventeen propositions which he approves, and the acceptance of which, *if elected into the Council*, he promises to use his best endeavours to promote. One of his professed objects is to render "the practice of any branch of medicine for gain by any persons not registered in the Medical Register a penal offence," while another is to "urge" boards of guardians to "put into operation" certain powers which they are said to possess. Another candidate has only five objects instead of seventeen, but one of them is to "promote the amendment of the Medical Acts so as to give the Council *greater* powers for the suppression of every form of quackery and unqualified practice." The Medical Acts not only contain *no* powers for the suppression of unqualified practice, but they even expressly recognise it. The object of the Act of 1858, as stated in the preamble, is not to protect the public from quacks, but to enable them to distinguish "qualified from unqualified *Practitioners*.' No doubt some of the objects at which the candidates profess to aim are excellent in themselves, but they must be brought about, if at all, by public and parliamentary opinion, and the General Medical Council, as a corporate body, is unable to take a single step with regard to them. The candidates in question may perhaps disapprove of the ellipticity of the orbit of Jupiter, but it would be hardly ingenuous for them to say that, *if elected into the Council*, they would endeavour to promote measures for rendering it more nearly circular.

I pass on to the address of my good friend Dr. Alderson, who tells us that (again, *if elected*) "his earnest efforts will be to get the Death Registration Act amended" on particular lines; and he further thinks, but apparently as a pious opinion rather than as an inducement to "efforts," that the Vaccination Act should be altered. I concede that both the Acts in question might be modified with advantage, but from this basis of agreement I hope it will not be thought obtrusive if I ask Dr. Alderson to condescend to particulars, and to tell us in what manner his presence (or that of any other person) in the General Medical Council would assist in obtaining the required amendments? What could he do in this direction, if in the Council, which he cannot do, simply as Dr. Alderson, to-morrow? What could the Council do? I ask for information, and shall await the answer with solicitude. Dr. Alderson goes on to say that it is "equally" the duty of the Council to use its funds and to exercise its functions under Section 13 and 31 of the Medical Act of 1858, &c. What on earth does this mean? Section 13 names the officer by whom all monies due to the Council shall be received, and defines the principles on which a proper proportion of the expenditure shall be made to fall upon each of the three divisions of the United Kingdom; while Section 31 provides that registered persons, unless hindered by the bye-law of a college of physicians, may recover charges for medical or surgical attendance. The former section is carried into effect in the Council office every day; the latter is carried into effect, independently of the Council, whenever any registered practitioner may think proper to enforce in a court of law his claim for professional remuneration. Dr. Alderson's next proposal can hardly, I think, be seriously regarded, and yet, possibly from a defective sense of humour, I am unable to discover the joke which it may contain. To avoid the possibility of unfairness, I will quote his words at length: "It shall be my object to prevent the present admitted injurious overcrowding of our profession by increased stringency of the Arts examination and also by a *physical examination* of the students both previous to the entrance 'Arts examination' for registration as medical students, and again before receiving diploma; the latter might perhaps be rather less severe, but would be useful even if passed as a guide to the class of practice the health of the candidate might admit of."

I do not know Dr. Alderson's political opinions, but should conjecture that he must be an extreme Radical. No one who was anything else could be so absolutely regardless of all considerations based upon liberty and freedom. It is obvious that an employer, whether an individual or the State, has a right to require physical fitness as a condition of giving employment, but to debar a man from entering the medical or any other profession, at his own cost and risk, because some one else thought him "physically unfit," would be a piece of tyranny hardly to be equalled under Russian or Oriental despotism. It would be interesting to know under what clauses of the Medical Acts Dr. Alderson would seek to compass the proposed exclusion, or to what licensing body he would turn as being likely to give effect to his recommendation. If I proceed from candidates to critics, one of whom, by the way, is also a candidate, I find in the *Times* of Saturday a report of the meeting of the British Medical Association at Carlisle, in which Dr. Welsford is made to describe the history of the Council as "one long story of wasted opportunities, its failure being mainly due to its non-representative character." On the other hand, Professor Victor Horsley and Dr. Lovell Drage are said to have contended that "the evil lay in the President's having too much power." It is impossible to come to close quarters with this balderdash, which is certainly condensed, and possibly misrepresented, in the report; but perhaps Dr. Welsford might be asked to point out specifically what opportunities the Council has wasted, and when and how it wasted them. Its "non-representative character" is pure nonsense. The Council was constituted to secure representation of the licensing bodies whose duty it became to give effect to its recommendations. And, if we come to facts, I for one am not ashamed of our record of work accomplished. With no power to compel, with no force but that of argument, we have extended the medical curriculum from four to five years; and we are steadily elevating the standard of preliminary examination. Even now, if I were an examiner in English, I should feel compelled to reject a large proportion of our critics, one at least of whom, in a letter which he has published and of which he must have revised the proof, has furnished an admirable exercise for any students who could be set to guess at the intended meanings of its labyrinthine sentences, or to point out and to correct its very

conspicuous faults. We have exerted a continuously beneficial influence upon the conduct of the final examinations in medicine, surgery, and midwifery, and we have, I think, held a steady balance between counsels of perfection and practical possibilities. We have to a great extent stopped the improper employment of unqualified assistants. In a word, I think we have "done our duty," and not least in avoiding courses which were sometimes tempting, but which, if we had pursued them, would have brought us into collision with public opinion, if not with the Privy Council and with Parliament. We are indebted to our excellent legal advisers for the fact that, although many of our decisions have been questioned, all of them without exception have been affirmed by the highest tribunals.

This letter is already far too long, but I must petition for a few lines more. I am as conscious as any of our critics that the medical profession has many and reasonable causes of complaint, and I am not surprised at the half articulate cry against the Council, although I altogether deny its justice. In my humble opinion the redress of our grievances, whatever they are, will only be obtained by educating the public; and this we have neither done nor tried to do. About thirty years ago I submitted to the British Medical Association a proposal to abandon its journal and to replace it by a high-class monthly or quarterly review, edited by a man of distinguished professional position and containing unsigned articles, full, lucid, temperate, by scholarly and capable writers, addressed to the public from the profession, and setting forth the professional view on all the numerous subjects, social or on the borderland of medicine, upon which medical men are able to speak with special and peculiar knowledge. If such a journal had been commenced and well conducted I feel sure that, even long ago, it would have been possible for us to go to Parliament and to ask successfully for powers and privileges which would now be refused to us, and refused in the interests and for the protection of the quacks and "antis" whom we have never taken any proper measures to expose. Moreover, if we are to do any good we must organise ourselves as well as educate others, and we must take care that our organisation is controlled by the leaders of thought among us, and not by people who seek in notoriety their only hope of escape from insignificance. I for one should be glad if every medical man in practice, like every solicitor, were compelled to take out his yearly certificate, and if the money thus accruing could be applied to the promotion of the corporate objects of the profession. Such a change may come in time. In the meanwhile, I would appeal to the practitioners of England to send to the Council men who will be representative of the best knowledge and of the highest aims of their brethren, and who are qualified by education, by experience, and by professional and social position to hold their own among the colleagues in whose deliberations they will take part.

I am, Sirs, yours faithfully,

Harley-street, Aug. 1st, 1896. R. BRUDENELL CARTER.

"THE PRESIDENCY OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND."

To the Editors of THE LANCET.

SIRS,—Your article on the Presidency of the Royal College of Surgeons of England in THE LANCET of July 25th contained part of the truth, and probably one or two votes may have been influenced by the considerations you have referred to. In order to complete the matter I enclose for publication a statement which I read to the Council at its meeting this afternoon. I am, Sirs, yours obediently,

Cavendish-square, W., Aug. 4th, 1896. CHRISTOPHER HEATH.

Statement Enclosed.

"Before the minutes are confirmed I wish to say a few words of personal explanation. I understand that, immediately before the last meeting of this Council, two of its members were busily canvassing against my re-election as President on the ground that I had degraded my office by accepting an invitation to give in America a course of lectures to which an honorarium was attached. It will, I fancy, very much surprise our American friends when they learn that exception has been taken to this; and I may say that among those whom I consulted before I accepted the offer was our President, who strongly urged me to do so. As regards the honorarium, to which I am told special exception has been made, I should like to point out that every lectureship in this College has an honorarium attached to it and that the amount of that attached to the American lectureship is not more than sufficient to cover the expenses of the long journey. But the point I want to make quite clear to the Council, and which must have been known to my censors, is this: that my engagement is for *next year*—for September, 1897—and could, therefore, have no relation whatever to the election for the present year."

"THE CAUSE OF MALARIA."

To the Editors of THE LANCET.

SIRS,—Referring to Surgeon-Lieutenant Payne's letter in your issue of the 1st inst., describing the fusion of the spherules of a Laveran's rosette body, I would suggest that this phenomenon—by no means an unusual one—is not a vital, but a mechanical one; that it is owing to crushing of the delicate parasite by the gradually increasing pressure brought about by the progressive thinning of the layer of blood from evaporation at the edge of the cover-glass. The plasmodium in this way is killed and crushed, and becoming somewhat diffluent the elements composing it run together by molecular attraction. If, however, this fusion of the spherules of the rosette be a vital process the body exhibiting it, as Surgeon-Lieutenant Payne remarks, cannot be a parasite, but for the same reason neither can it be a white blood corpuscle, as Surgeon-Lieutenant-Colonel Lawrie would have us believe.

I would ask Surgeon-Lieutenant Payne how he assured himself that the spherules were non-nucleated.

I am, Sirs, yours truly,

Aug. 3rd, 1896. PATRICK MANSON.

"A CASE OF FÆCAL FISTULA: A NEW MODIFICATION OF ENTERECTOMY."

To the Editors of THE LANCET.

SIRS,—Whilst I would attach every weight to Mr. Jessett's statement in THE LANCET of Aug. 1st that ample security against fæcal extravasation can be obtained by simply packing with wool or gauze the open fistula, still, I think that the method I learned from Dr. Oswin is safer, and this safety can be procured without any very elaborate manœuvres. In answer to his query as to the method of suturing the intestine, as I had plenty of room I simply sutured end to end without any bone plate. So far as I have seen, Murphy's button and such like contrivances are only needful where from some reason the intestine cannot be freely and easily handled, or where from exhaustion time has become an important feature in the case.

I am, Sirs, yours faithfully,

Leeds, August 4th, 1896. W. H. BROWN.

"TRAVELLING ABROAD FOR HEALTH AND PLEASURE."

To the Editors of THE LANCET.

SIRS,—The leading articles upon the above subject which appeared in THE LANCET of July 18th and 25th are very opportune and will be perused with interest and profit by many readers. Your insistence upon the necessity of avoiding worry or over-exertion in connexion with summer holidays is most important at this season, and there is much truth in what you say about financial considerations, bad sanitation, and overcrowding being fruitful sources of worry and anxiety which too frequently prevent any benefit that otherwise might be expected. Whilst you have much to say in favour of Continental travelling you very properly recognise the many inconveniences of holidays spent on the Continent. I am, however, compelled to disagree with you slightly upon the subject of the comparative cost of residence at British and Continental health resorts. You say that it is infinitely cheaper to visit the latter, and instance certain hotels in Switzerland, South of France, Spain, and Italy where excellent board and lodging can be obtained at from 4*s.* to 7*s.* per day. That this is scarcely a fair comparison is proved by your admission that "English drainage and English cleanliness are accompanied by the exorbitant charges of English hotels" at many Continental resorts. But, Sirs, can

the English charges be fairly styled exorbitant? I think not, unless you ignore the fact that "English drainage and English cleanliness" are not only sanitary necessities, but of the nature of costly luxuries, which have to be paid for somehow. I think it will be allowed that the cost of these luxuries is pretty much the same whether obtained at an English or a Continental health resort. That these advantages are superior and more amply provided at British spas and watering-places is now generally admitted by the profession, and is one of the strongest motives which induce many thousands to choose our home resorts in preference to foreign resorts. There is another aspect of this question which I should like to bring before your readers. It is this, that the crowding of a vast majority of visitors and invalids into one short holiday season which lasts only some six or eight weeks during two months (August and September) is not only responsible for those high charges and the financial worry to many visitors which you rightly deplore, but also too often for the overcrowding of sleeping accommodation, bad cooking, inferior attendance, and numerous other objectionable features of the great English holiday season. Now much of this could be prevented if visitors and invalids able to do so would only choose more frequently the months of spring, early summer, and late autumn for their holidays. In these months hotels and lodging-houses can, and indeed do, provide better accommodation at greatly reduced cost, which in many cases comes to half that of August and September.

I am well aware that there are many who, either from business or social exigencies, are prevented from taking their holidays at any time except in the two months mentioned. On the other hand, there are large numbers who are unfettered in this respect.

The advantages of the course suggested are so great, particularly to invalids, that I cannot too strongly urge upon medical men the desirability of advising their patients when practicable to take their holidays either before or after the crowded part of the summer season. I would even go further and point out the frequent advantage of advising two shorter holidays in lieu of a single longer one. The habit of visiting some health resort or other for two or three weeks, first in April, May, or June, and again for a similar period in October or the latter part of September, is growing in favour, and possesses not only the advantages of better and cheaper accommodation, but provides two changes in place of one annually and reduces the interval between the holidays from nearly a year to half that period.

I remain, Sirs, yours faithfully,

SAMUEL HYDE, M.D. St. And.,
Chairman of Council, British Balneological and Climatological Society.

July 25th, 1896.

"WHY IS THE LEFT HEART STRONGER THAN THE RIGHT?"

To the Editors of THE LANCET.

SIRS,—All Dr. Harry Campbell's writings bear the evidence of personal thought and the conclusions at which he arrives are the logical consequence of his premisses. In making a few remarks upon his query, "Why is the left heart stronger than the right?" I do so in a spirit of courtesy to the writer, but with a sense of bewilderment with regard to his conception of the physics of the circulation. My bewilderment is possibly a measure of my ignorance and I am anxious and ready to be rightly informed. Like many others I have hitherto been under the impression that muscular development or power bore a direct relation to the resistance to be overcome, and that inasmuch as pressure decreases and inertia increases with the length of a conduit for fluid, so the force necessary to overcome this increasing inertia must relatively increase also. This elementary fact is, of course, capable of experimental proof. When to this we add the oscillating character of wave-like movement in the circulation—of which we know very little at present—and the greater blood-weight in the systemic vessels we certainly have, I would suggest, conditions quite capable of explaining the greater force necessary to drive the systemic circulation without importing the physiological factor of vaso-motor regulation of that system. The constant modification of the blood-supply to various parts of the body to which Dr. Campbell refers is associated with local compensatory relief—that is, a rise of pressure in one quarter is balanced by a fall of pressure in another. It, therefore, appears to me that the paradoxical conclusion arrived at by Dr. Campbell is untenable. The anatomical differences between the systemic and pulmonary circuits and the difference in the weight of their contents respectively appear to me a sufficient explanation of the difference between the power of the right and left ventricle. That the expedients devised by nature for effecting one purpose frequently serve also another is incontrovertible. The fact, therefore, that the systemic vessels contain more blood than the pulmonary and have a development and innervation which enable them to modify the blood-supply to different parts, no more raises the latter physiological factor to the first rank as a cause of the vascular difference in question than does the fact that the thin-walled vessels of the pulmonary system admitting of easy aeration of the blood constitutes the latter function the cause of the easier transit of blood through that circuit. There are other portions of Dr. Campbell's communication which are neither clear nor convincing, but which it would occupy too much of your valuable space to comment upon at length. Thus he says: "Every time a ventricleful of blood passes through the larger segment *it* [the italics are mine] has to traverse the smaller one." It cannot be that Dr. Campbell means that *the same* ventricleful of blood does so, but this is the sense conveyed to my mind by the passage I have quoted. A factor which Dr. Campbell has not taken into account, but one which cannot be ignored, is the influence upon both the pulmonic and systemic, but especially pulmonic, circulation of thoracic aspiration. It cannot well be denied that the aid afforded to the dextrocardial circulation by the action of the thorax is one of the causes of the less powerful development of the right as compared with the left ventricle. Thus, Sirs, as I am compelled to reject Dr. Campbell's premisses as fallacious, I am unable to accept the truly "remarkable conclusion" at which he arrives in his paper.—I am, Sirs, yours faithfully,

ALEXANDER MORISON, M.D. Edin.

Upper Berkeley-street, W., July 27th, 1896.

THE NOMENCLATURE OF DISEASES.

To the Editors of THE LANCET.

SIRS,—A copy of the third edition of the Nomenclature of Diseases has reached me this morning, which one naturally expected to find well-nigh perfect. On turning, however, to page 7, where are recorded "General Diseases," in which I am not only interested but deeply concerned, it is difficult to imagine the condition of mind which has impelled the august members of the joint committee, in the midst of the English names of our common diseases, such as small-pox, chicken-pox, measles, scarlet fever, and mumps, to suddenly insert the name "rubella," and expect it to be used in every-day life. The committee might just as well expect to supplant the name of "whooping-cough" by "pertussis." We are, therefore, still to have, for another ten years, two distinct and definite diseases, and the one not affording protection from the other, called by the same name "measles," for in daily life the word "German" is omitted, at least such is the case in the majority of certificates which come into my hands from all parts of the country and which consequently entail endless trouble and anxiety to find out which measles has occurred.

It seems inconceivable that the committee in the case of scarlet fever should enter it thus: "Scarlet fever, synonym scarlatina," while in roserash, as also in dengue, it is reversed—"Rubella, synonym German measles," "Dengue, synonym breakbone fever." It is evident that the joint committee has been caught napping, or perhaps rubella was "made in Germany."—I am, Sirs, your obedient servant,

Rugby, July 29th, 1896. CLEMENT DUKES, M.D. Lond.

"THE MILDER VARIETIES OF APPENDICITIS."

To the Editors of THE LANCET.

SIRS,—I have not seen it mentioned anywhere that a decubitus, other than the ordinary dorsal one, is of great advantage in arriving at a correct physical examination of the abdomen in some cases of appendicitis. I have derived very great assistance by placing the patient on his or her left side with the shoulders low and the legs drawn up. By this decubitus, especially in a parous woman, it is much more

easy to detect the position and condition of the appendix and also to differentiate it from the uterine adnexa than by palpation of the patient lying on her back. Even when no great intestinal distension is present the depth at which the appendix might lie is greater, and the tension of the abdominal walls is apt to be more marked in the dorsal position than when this lateral method is employed if no intestinal adhesions are present. As an instance of the action of intra-abdominal traction in causing rupture of an adherent appendix, as noted by Mr. Arbuthnot Lane in THE LANCET of July 25th, I may mention that one of my cases, in a boy aged eight years, was directly caused by his crawling head first out of bed on to the floor one morning when playing with his brother. The traction applied to the appendix by such rapid and forcible inversion must be considerable if there are any adhesions. He rapidly developed serious abdominal symptoms, and when laparatomy was performed by Mr. Keith there was acute general peritonitis and fæcal extravasation through a tear in the appendix, which was bound down by old adhesions. Unfortunately he survived only eighteen hours. I was informed that he had never required medical treatment for any symptoms referable to the appendix, so that the adhesions found at the operation must have resulted from one or more very mild attacks, the gravity of which was unrecognisable. Evidently so long as the body was not inverted no undue traction was exerted on the abnormal appendix. I am, Sirs, yours truly,

J. CHRISTIAN SIMPSON, M.D. Edin.

Tunbridge Wells, Aug. 1st, 1896.

"PERIPHERAL NEURITIS IN PREGNANCY."

To the Editors of THE LANCET.

SIRS,—I read with great interest Dr. George Elder's article on Peripheral Neuritis in Pregnancy which appeared in THE LANCET of July 25th, 1896, and I think the following case is worth recording as an addition to those of the same nature already published. A woman aged forty-two years consulted me in August, 1895, complaining of great pain and weakness in her hands, which had commenced a month previously. She had been married nineteen years and had had nine children and one miscarriage. Four of her confinements had been in every way natural, but five had been difficult, requiring instrumental interference. One child was stillborn, but all the rest were living and thoroughly healthy. When first seen the patient looked out of health and was very anæmic. She complained of intense pain in both hands "as if the flesh were being dragged off the bones," and also of constant "pins and needles." The pains were very much worse at night and kept her awake. She stated that for the last month she had been quite unable to do her washing and that recently she had not been able even to lift the teapot.

On examination the loss of power in the grasp of both hands was found to be very considerable, as also was the loss of sensation, the patient not feeling the prick of a needle in any of her fingers, nor in the palms, or on the backs of her hands. Above the wrists sensation was normal. The hands were very cold, the fingers were kept flexed and could not be fully extended and the phalangeal joints were distinctly swollen. There was nothing abnormal about her feet and legs. The urine was examined on first seeing the patient and on several subsequent occasions, and was always found to be free from both sugar and albumin and of a good specific gravity. These symptoms remained much the same, becoming, if anything, more marked until her confinement in November, after which they immediately began to improve, and by the end of a month they had quite disappeared and the patient was able to do her washing and all her ordinary duties. This was in spite of a very bad confinement. Labour commenced at 4 A.M. on Nov. 23rd, 1895, the os uteri soon became fully dilated, but the head did not pass through the brim of the pelvis. By 2.30 A.M. on the 24th there was no progress, and the patient was becoming exhausted, consequently it was determined to deliver with forceps. This was done with great difficulty, and unfortunately the perineum, which had been previously ruptured, tore like a bit of wet blotting-paper through the sphincter ani well into the rectum. This tear was at once stitched up and did perfectly, leaving no after-trouble whatever; but, as the woman's surroundings were anything but sanitary and the nursing available worse than useless, the fear of septic absorption and consequent increase of the neuritis caused a good deal of anxiety.

In this case the symptoms of peripheral neuritis were fairly well marked and were evidently connected with pregnancy, as shown by the way in which they at once cleared up after delivery. The patient was certainly very anæmic, but this condition lasted long after the neuritis had disappeared, so it could not have been the sole cause of the latter. Alcoholism can certainly be excluded, as also lead and arsenical poisoning. She has never had diphtheria or typhoid fever, and there is absolutely no history or evidence of syphilis. She had influenza four years ago, but made a good and complete recovery. My partner, Dr. Sharman, kindly saw the case with me at the time and agreed that the symptoms were due to pregnancy, perhaps aggravated by anæmia. In conclusion I may add that the patient is again pregnant, but at present there are no signs of any neuritis. Quickening took place a fortnight ago. Last time the pains in her hands commenced about a week or ten days previous to quickening.—I am, Sirs, yours faithfully,

CHARLES A. PARKER, F.R.C.S. Edin.

Rickmansworth, Herts, Aug. 4th, 1896.

"THE GIVING OF CHLOROFORM BY UNQUALIFIED PERSONS."

To the Editors of THE LANCET.

SIRS,—In the leading article on the above subject in THE LANCET of June 20th of the present year occurs the following: "It is, we learn, a common custom of dentists whose qualification to practise is registration before 1878, or the possession of the L.D.S., to administer chloroform to their patients." No dentist, or medical man either, in possession of the historical fact that of all the fatalities arising from the administration of chloroform 70 or more per cent. have occurred during the apparently simple operation of tooth-extraction, ought, in face of these figures, to use it for tooth-extraction, as it appears its use is more than ordinarily fatal. As regards those holding the qualification in dentistry known as L.D.S., perhaps you are not aware that as students they are educated in the use of anæsthetics and examined in the same before obtaining a qualification to practise. At least, they are in Ireland.

I am, Sirs, yours obediently,

St. Leonards-on-Sea, Aug. 4th, 1896. J. ABBOTT, L.D.S Irel.

THE HOSPITAL SUNDAY FUND AND THE OUT-PATIENT SYSTEM.

To the Editors of THE LANCET.

SIRS,—The Council of this fund professes to make its awards largely dependent upon the proper management and administration of the respective hospitals. The out-patient system in nearly all cases constitutes a gross blot upon hospital administration, and yet the Council ignores this entirely in distributing its awards. The evil is admitted, but the medical profession is blamed for its existence. It would be about as reasonable to censure the county clergy for defects in the services of a cathedral. It is, or ought to be, perfectly well known that except in a few special instances the medical profession has absolutely no control over hospital administration and that it has for years been asking for out-patient reform. Dr. Glover has done good service in raising this question at the Council of the Hospital Sunday Fund. It is the body which can, if it will, do most to correct the evils of the present system by bringing pressure to bear upon the hospitals. But it evidently requires a good deal of pressure itself, and what I suggest is that this matter should be dealt with in THE LANCET Supplement for next year and that contributors should be recommended to require the Council to take this subject into consideration in making its awards. I am, Sirs, yours faithfully,

Aug. 3rd, 1896. W. G. D.

THE ARMY MEDICAL STAFF.

To the Editors of THE LANCET.

SIRS,—During a recent visit to England I was greatly and painfully impressed with the unreasoning and unjust prejudice which appears to exist in the minds of at least a section of the combatant officers of the service against the gentleman who are at once officers holding Her Majesty's

commission and members of the honourable and useful profession of medicine. I had good opportunities of observing the attitude of many combatant officers towards the medical officers, and it passes my comprehension how English gentlemen of liberal education can allow themselves to entertain ideas not only antagonistic but of positive, persistent hostility to an unoffending and most useful department of the army. I can only characterise such an attitude as unworthy of the profession of arms, as ungenerous to a degree, and as one reflecting anything but credit on officers who without just cause attempt to ostracise the Army Medical Staff. I venture to predict that just so surely as the volunteers have lived down and overcome the prejudice against them so surely will the medical staff receive their just meed of official appreciation in due time.

In the colonies, while we lack much that you have in England, yet I am thankful to say we are free from unreasoning class prejudices. In Australia the medical officers enjoy substantive rank and equality with combatant officers. The same may be said of Canada, where the most cordial goodwill exists between all departments of the service. What strikes one most forcibly regarding the medical profession in Canada is its high social and political standing. The House of Commons of Canada, the provincial Legislatures, and the Senate contain many medical representatives. Medical men have been members of many of the cabinets. Dr. Schultz was Governor of Manitoba. Twice medical men have been prime ministers of Canada, Sir E. Tache in 1856 and Sir Charles Tupper in 1896. Now, as incredible as it may seem to some officers of the army at home, a surgeon-lieutenant-colonel, Dr. Borden, has been made Minister of Militia and Defence, a corresponding position to that of Secretary of State for War. I sincerely hope that the time is not far distant when a fair share of official, as well of popular, approval will be meted out to the Army Medical Staff.

I am, Sirs, yours truly,

A COLONIAL OBSERVER.

HYDROPATHIC ESTABLISHMENTS AND THEIR PHYSICIANS.

To the Editors of THE LANCET.

SIRS,—Dr. Leslie Phillips, in his paper on Medical Aid Associations recently reported in your columns, made some allusions to the employment of medical men in connexion with hydropathic establishments. I am glad to see that he is of opinion that such employment does not necessarily come under the heading of unprofessional conduct, but hardly agree with him as to the feasibility of certain suggestions which he makes as to the proper method of remuneration in such cases.

As I have for six or seven years held appointments in connexion with well-known and—perhaps I may add—well-conducted hydropathic establishments, my opinions as to what is, or is not, practicable ought, I think, to carry some weight. Dr. Leslie Phillips suggests that in rural districts the requirements of medical ethics will be met, and the charge of "farming" one's services avoided, by providing that the medical officer be not the salaried officer of the establishment but receive all the fees earned by his skill. Now what I wish to point out is that this arrangement, excellent as it appears at first sight, would in many cases be far more objectionable than the system it is intended to supersede. As a matter of fact it may very well happen—does, in fact, happen—that the medical officer of a given establishment receives, and properly receives, considerably more than the amount he earns for the company in the shape of fees. The advantages of having a properly qualified medical man attached to the interests and more or less responsible for the conduct of a hydropathic establishment are by no means adequately represented by the sum paid for consulting him by those of the visitors who are also patients. The same advantages could not be secured by paying a local practitioner to visit the establishment at stated hours or by handing over to him the amount received in fees, nor would it be to the advantage of an overstocked profession that such an arrangement should be insisted upon in every case, even if it could be enforced. Those who in search of healthy surroundings and appropriate treatment are about to visit a hydropathic establishment will naturally give the preference to such as are known to maintain a resident physician, and such being the case it is obvious that the whole profits derived from the presence of such invalids in a given hydro. are in a sense attributable to the presence of the physician. How, then, can it be contended that the surrender of the consultation fees is a sufficient recognition on the part of the proprietors of the value to their institution of the social and professional qualities of a resident physician? It is further to be remembered that there are duties of organisation and instruction arising out of the employment of a staff of bathing attendants, masseurs, nurses, &c., which can only be properly discharged by a qualified medical man and which certainly will be advantageously discharged by one who is either in residence or otherwise identified with the inner working of the establishment. Constant supervision is also necessary if the treatment is to be properly carried out, and who but a qualified medical man is competent to do this? Although chronic cases are certainly much more frequent than cases of acute illness in these institutions, it does commonly enough happen that these are of a sufficiently severe character to require very close attention on the part of the medical adviser, and in cases of emergency (which are by no means rare or necessarily trivial) much invaluable time may be lost in calling up an independent and presumably busy practitioner if there is no responsible official on the spot. Again, it may happen that the establishment is situated in a place so thinly inhabited as to afford practically no opportunity for private practice outside its walls. Such a situation may nevertheless be pre-eminently suitable from a hygienic point of view for a health resort, but it would be absurd to expect that a medical man of any standing would necessarily and from the outset receive from the visitor's fees alone enough to enable him to keep up a separate *ménage*, although it might be well worth the while of the proprietors to provide him with accommodation and to pay him as a resident a moderate stipend. In such a position, if he perform his duties in a proper spirit and with a due sense of responsibility both to his employers and to the profession, he will find nothing derogatory to his honour any more than in the conduct of an ordinary practice, a fact which has been tacitly admitted by the recognition accorded to his class by modern medical opinion. It is in every way to his advantage that the commercial and hotel department should be in other hands than his own, and the fact of his receiving a fixed salary which does not necessarily depend upon the number of patients in residence but upon the general value of his services, is favourable rather than the reverse to his scientific and professional integrity.

In approaching a difficult and complex question of this kind it is above all things necessary to preserve a thoroughly relative standpoint and to avoid the mistake of applying to an essentially modern set of conditions rules which were passed for the guidance of ordinary practice in earlier and simpler times.

If in questions of this kind absolute hard and fast rules are prematurely laid down the inevitable result will be that they will prove impracticable and will be rejected by the conscience and the common sense of the profession. And the cause of ethical reform and professional unity will thus be injured by the very means intended to promote it.

I am, Sirs, yours faithfully,

Aug. 3rd, 1896. EXPERIENCE.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Cremation v. Burial.

AT a recent meeting of the King's Norton Rural District Council the General Purposes Committee recommended that the council should take all necessary proceedings to obtain power to establish and maintain crematoriums. The proposition was carried by five votes against four. Some interesting facts were adduced in support of the proposal. It was stated that in Birmingham and the surrounding district there is a population of 800,000, and that the provision for cremation could be made for two places at a cost of between £4000 and £5000. The practice has many arguments in its favour, though but little headway has been made in the reception of these by the public. In the congested state of our towns, and the rapidly increasing growth of the population, existing prejudices will probably yield in the course of time. Theological doubts and difficulties prove an effectual barrier to the adoption of these views among many,

and the reasoning of science and utility will find it hard to break down so strong a resistance.

"Chocolate Chumps."

Under this designation a pernicious form of sweetmeat has proved attractive to the young, unfortunately resulting in the death of a little girl aged eleven years who had freely partaken of this deadly dainty. In the investigation by the coroner for South Staffordshire the analyst stated that he found the three ounces of sweets submitted to contain 29½ grains of paraffin wax which was absolutely indigestible. In view of the fact that these sweets were eaten after a repast of pork-pie there seems to be no surprise that the verdict of the jury was death from peritonitis, in all probability caused by the paraffin wax in the "chocolate chumps." Thus in the pursuit of pleasure death lurks among the innocent and victims succumb readily to the allurement.

The New General Hospital.

The progress of this building has lately made rapid strides and anticipations of the opening functions are being indulged in. It is hoped that by June, 1897, the building will be sufficiently completed for occupation, and that this period will mark the time of a new era in the history of the charity. This hope is the more favoured since the occurrence of the musical festival in the following October will form another source of funds to which the authorities look for aid. In the interests of the sick poor any delay will be a matter for regret, and from a financial point of view protraction means increased expenses which can ill be afforded. A strong appeal has yet to be made for the necessary amount to furnish and equip the building. *Apropos* of the area of land facing the front of the building vigorous efforts are being made to secure an open space. The corporation of the city, while feeling the desirability of this object, do not quite accept the responsibility of ceding the land they hold in trust on behalf of the ratepayers. Some solution of the difficulty will probably be found before the time comes for the permanent settling of the question. The hospital committee will gladly welcome a grant in their favour for this very laudable and almost necessary purpose.

West Bromwich District Hospital.

At the annual meeting of this institution recently held a significant observation is embodied in the medical report. It regrets the increase in number of the out-patients, and points out that it had been a great tax upon the resources of the institution and was a sure indication that the charity had been abused to a considerable extent. The number of in-patients treated was 774. The number of out-patients was 7834, against 7254 in 1895. In a district composed largely of working men and their families, with trade flourishing and wages high, the occurrence of a large attendance in the out-patient department is suggestive of other interests being displaced and of some explanation being afforded.

Aug. 4th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Ancoats Hospital.

THE annual meeting of Ancoats Hospital was held on July 22nd, the chair being occupied by Sir W. H. Holdsworth, Bart., M.P. The report stated that though the work presented no very startling facts there had been a large amount of activity in all departments and the in-patients continued to increase in numbers. There had been 6316 accidents, and there was still an average of 16 or 17 a day, many of which were serious and required immediate attention. The home-patients numbered 2205, the out-patients 3713, the in-patients 1051, and the dental cases 291. From the Hospital Saturday and Sunday Funds £607 10*s.* had been allotted, and from the Workpeople's Committee £355 7*s.* During the year a legacy of £600 had been received from Mrs. Fraser, the widow of the late Bishop of Manchester, one of £5000 from the late Mr. William Berry, and one of £500 from the late Mr. Edward Pinder, while the committee recorded with gratitude the gift of £1000 from an Ancoats friend. There is a convalescent home at Wilmslow which has been found to be of advantage to the women and children who had been inmates. During the year £1427 had been received from subscriptions. The expenditure had reached £5307, which included a balance owing to the bank of £1172, and there was now the amount of £362 still due to the bank. The actual receipts for the past year amounted to £3988. The report contains an expression of hope from the committee that in a short time an extension of the convalescent home at Wilmslow will enable the men as well as the women and children to obtain the benefit of pure air during convalescence.

Death from Sunstroke.

Much sympathy is felt for Dr. C. J. Renshaw, of Ashton-upon-Mersey, who has just lost a son twenty-one years of age from sunstroke. He was found lying insensible near a field path, his breathing being short and jerky, and was removed to a neighbouring cottage, where he died the same evening. Sunday, July 12th, was one of the very hot days we have had this summer. Dr. Herbert Renshaw of Sale, whose help was obtained, said there were no symptoms of opium or any other form of poisoning, and in his opinion death was caused by heat apoplexy or sunstroke, and a verdict to this effect was returned.

Suicide of a Nurse.

The recent suicide of a nurse at the Pendlebury Hospital raises some questions worth consideration. It appears that she inhaled chloroform, was partially restored, but relapsed and died. During a short period of consciousness she said something to the effect that the work and the sense of responsibility were more than she could bear. There is a great rush for the nursing career among girls of the middle, and in many cases of the upper-middle, class from all sorts of motives. Many of them have been brought up without any very definite aim and find their home lives, as they think or fancy, empty, frivolous, or in some way uncomfortable. Some have a sentimental idea that they could more willingly give to sick strangers the kindly and somewhat wearying attention required by their own kith and kin. Others take to nursing from straitened circumstances and courageously determine to get their own living. A few have been "crossed in love," but one and all they dream that a life spent in nursing sick humanity will be a panacea for all their real or imaginary troubles. The physical labour and the long hours, even in these days of lawn-tennis and cycling, are too much for some of them to stand for any long period, and, coupled with actual contact with disease in its realism—robbed of all romantic associations—soon break down their strength both of body and mind. Suicide is happily rare, and with good health and its accompaniment, good spirits, many nurses, perhaps the majority, enjoy their hospital work and lead happy lives. These young ladies have frequently been delicately and tenderly brought up, and some of them are ill fitted for their vocation. For their own sakes, as well as for the sake of the patients, it is desirable that admission to the calling of nurse should be prefaced by a stricter and more careful consideration of their fitness both as to physical strength and mental qualities than is sometimes the case at present. A nurse equal to her work, sufficiently sensible of her duty and of the responsibility of her calling, is worthy of all respect and even reverence, but there is no room for those who look upon nursing as a pleasant pastime, especially as it can be carried on in a costume so picturesque and attractive that its assumption by others than nurses is not a very rare occurrence. In many hospitals the nurses are worked much too heavily, and if their work were a little easier it would be so much the better accomplished.

July 28th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

University of Glasgow.

THE University Commissioners, in the ordinances they issued dealing with the conditions governing graduation in medicine, left to the discretion of the authorities of the different universities the enactment of various details determining the amount of attendance required in classes treating of certain special subjects. In pursuance of this responsibility the senate of the University of Glasgow, with the approval of the University court, has now determined that each candidate for the degrees of M.B. and Ch.B. shall be required to attend: 1. Demonstrations in the post-mortem room of a recognised hospital with instructions in making post-mortem examinations; not less

than twenty examinations must be attended. 2. A course of clinical instruction in fevers, consisting of at least ten meetings in a hospital for infectious diseases containing not less than fifty beds. 3. A practical course of instruction in Ophthalmology of not less than twenty meetings. The course must be conducted in a recognised hospital or dispensary and must include sufficient practical instruction in the methods of examining the eye. Candidates are also recommended to attend the following:—(*a*) Diseases of Children, (*b*) Diseases of the Ear, (*c*) Diseases of the Throat and Nose, (*d*) Diseases of the Skin, in short practical courses of at least ten meetings. It is intimated that the University will make the necessary arrangements to enable candidates to carry out these recommendations in so far as they are not at present provided.

In connexion with the higher degrees of M.D. and Ch.M. the Commissioners prescribed an examination in clinical medicine and clinical surgery respectively, but left the scope and conditions of this examination to be determined by each University for itself. The regulations in the University of Glasgow for the session 1896–97 are to be as follows:—(*a*) *Doctor of Medicine.*—The examination shall for each candidate consist of a written report and commentary, with any oral questions that may be considered desirable upon at least three medical cases. In the selection of the cases special regard shall be given to the opportunities they afford for testing the candidate not only in the ordinary methods of clinical investigation, but also in the more advanced methods requiring practical knowledge in the application of the ophthalmoscope and laryngoscope, in the chemical and microscopical examination of excreta, the quantitative determination and microscopic characters of the chief constituents of blood possessing clinical importance, the recording by instruments of the condition of the circulation, the applications of electricity, &c. A candidate may, if he so desires, have one of the cases selected from one of the following departments—viz., diseases of women, diseases of children, mental diseases, zymotic diseases, or diseases of the eye, throat, ear, or skin; if the candidate specialises in one of these departments he will be expected to show high proficiency in it. (*b*) *Master of Surgery.*—The examination is to include a report or commentary on three surgical cases, surgical anatomy, and operative surgery. The candidate may specialise in the surgical diseases of women or in diseases of the eye, or throat, or ear. For each degree the usual thesis is demanded and candidates must enter their names by Oct. 10th, 1896. The examination is to be held before the Christmas holidays. The immediate interest of these new regulations arises from the fact that graduates in medicine (M.B. and C.M.) under the old regulations may proceed to the M.D. degree if they so desire it under the rules as formulated above. It has been arranged that a post-graduate class in pathology shall be conducted during the autumn by Professor Joseph Coats.

Science Research Scholarships.

Her Majesty's Commissioners for the Exhibition of 1851 have made the following appointments to Science Research Scholarships for the year 1896 on the recommendation of the authorities of the respective universities and colleges. The scholarships are of the value of £150 a year, and are ordinarily tenable for two years (subject to a satisfactory report at the end of the first year) in any university at home and abroad or in some other institution approved of by the Commissioners. The scholars are to devote themselves exclusively to study and research in some branch of science, the extension of which is important to the industries of the country. A limited number of the scholarships are renewed for a third year where it appears that the renewal is likely to result directly in work of scientific importance.

1. University of Glasgow—William Craig Henderson, M.A., B.Sc.
2. University of Aberdeen—Alexander Ogg, M.A., B.Sc.

The following scholarships granted in 1895 have been continued for a second year on receipt of a satisfactory report of work done during the first year:—

1. University of Glasgow—Walter Stewart, M.A., B.Sc., Universities of Glasgow and Berlin.
2. University of St. Andrews—Henry Charles Williamson, M.A., B.Sc., Marine Laboratories, Naples and Kiel.
3. University College, Dundee—James Henderson, B.Sc., Polytechnicum, Munich.

The scholars from the University of Edinburgh and the Owens College, Manchester, have resigned on obtaining public appointments. The reports of the scholars from the Mason College, Birmingham, and the University College, Bristol, are not yet due. The following scholarships granted in 1894 have been exceptionally renewed for a third year:—

1. University of Edinburgh—John Carruthers Beattie, B.Sc., Universities of Vienna and Berlin.
2. University of Aberdeen—William Brown Davidson, M.A., B.Sc., Universities of Wurzburg and Leipzig.

Aberdeen Royal Lunatic Asylum: New Hospital.

The new hospital and administrative offices, the contracts for the erection of which were entered into in August, 1893, have now been finished and were opened for the inspection of the public this week. The total cost has been upwards of £30,000. The new buildings have been described in the columns of THE LANCET, and it may be sufficient now to mention that the hospital has accommodation for 150 patients, and is divided into administrative, observation, and sick blocks. The design, as explained by Dr. William Reid, the medical superintendent, is that all cases requiring special attention shall be concentrated in the hospital, where there will be one nurse to every five patients. There will be resident the senior medical assistant of the asylum and a qualified and experienced lady nurse. All patients on admission will pass through the administrative division, and those who exhibit any signs of curability will be relegated to the portion of the observation block designed for the special treatment of their type of case. The sick from all parts of the institution will be cared for in wards and single rooms specially designed for the treatment of the different bodily diseases.

Aberdeen University Volunteer Medical Staff Corps.

Fifty representatives of this corps left Aberdeen for camp at Aldershot on the 31st ult. They are under the command of Surgeon-Captain A. Macgregor.

Aug. 4th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Sale of Poisons by Druggists in Dublin.

IT seems strange that chloroform is not among the poisons which druggists are compelled to enter in "the sale of poisons book," and this deficiency in the law is prominently exemplified by a lamentable fatality which occurred recently in Dublin. The facts as deposed at the inquest were briefly as follows. Mrs. Kerrigan suffered severely from toothache or neuralgia and after using laudanum, &c., locally without effect sent a little girl with a written message to a druggist—"Please give bearer small bottle of chloroform," signed "A. Kerrigan." The druggist asked the girl whether it was required for toothache and on receiving an affirmative reply gave her a small bottle containing half an ounce of chloroform. This, it appeared, was mixed by the deceased with a small quantity of whisky and swallowed. Some hours later she was found in a comatose state, and before she reached the hospital was dead. At the inquest it was stated that the druggist was quite within his legal right in selling half an ounce of pure chloroform without an order from a medical man, and the coroner in his address to the jury acknowledged this, but remarked that a man might act within his legal rights and yet might be sufficiently incautious as to incur severe criticism. He further stated that in his opinion no drug of the insidious character of chloroform should be sold in large and poisonous doses without restriction. The jury, after finding that death was due to accidental poisoning by chloroform taken to relieve neuralgia, added to their verdict the following: "We consider that the sale of chloroform under circumstances such as were detailed in this case without an order from a doctor is dangerous and ought to be discouraged."

The Coombe Lying-in Hospital, Dublin.

From the purely sanitary point of view this hospital seems to be in a very unsatisfactory condition. At the annual meeting of its friends and supporters which took place last month Mr. Edward Fottrell alluded to the overflow of the Poddle river and the consequent flooding of the basement of the hospital. When it is remembered that this subterranean stream, which traverses the south side of Dublin to open into the Liffey, is practically one of the city sewers, the serious character of the nuisance will be apparent. It was stated, moreover, that the corporation could do but little to remedy

the state of things until the new system of drainage came into operation. All that was possible for the time was to frequently wash out and clear the river by opening a sluice occasionally, and this was being done. The chairman said that he should be glad to see the main drainage works commenced, for the contract had been now advertised for a long time, and it was quite impossible to adequately deal with this very serious drawback to the hospital until they were carried out. Dr. Frederick Kidd, the master, said, in reference to the overflow of the Poddle, "they should be sincerely thankful that there had not been greater mortality in the lying-in wards." It is, indeed, satisfactory to note on referring to the report that the death-rate has been maintained at a low rate—namely, 0·75 per cent.

Action against a Medical Man.

At the recent County Antrim Assizes an action was brought by a labourer named Wightman, residing near Killinchy, county Down, against Dr. Samuel Wallace, Lisbane, Comber, county Down, for alleged negligence in his capacity as a medical man while treating the plaintiff for a dislocated shoulder, by reason of which Wightman said he had lost the use of his right arm and had become incapacitated from earning his livelihood. £750 damages were claimed. It seems that Wightman, while admittedly under the influence of drink, sustained a fall and dislocated his shoulder on Dec. 20th, 1895, and went to Dr. Wallace on Jan. 2nd, 1896. Dr. Wallace found his arm much swollen and discoloured, but owing to this he could not come to a definite opinion, and he gave him a plaster and told him to see him in a day or two, when the swelling had subsided. The man did not go back, but on Feb. 6th, consulted another medical man, who told him his arm was out and that he must come back again. Two days afterwards he went back to Dr. Wallace, who was then laid up with a serious illness. He was seen by his assistant, Mr. Steele, who examined him, and at a subsequent visit Mr. Steele and Dr. Sproulle tried to reduce the dislocation, but, failing, sent him to the Royal Hospital, Belfast, where, owing to the time which had elapsed, he was told of the difficulty of putting it in, although an attempt would be made if he decided to allow the joint to be explored, but that the operation was severe and doubtful. Dr. Wallace never saw the man except on one occasion. For Dr. Wallace Dr. H. O'Neill, Professor Sinclair, and Mr. Fagan were called, and supported Dr. Wallace's treatment as described in his evidence. They thought it was necessary to get the excessive swelling reduced before applying the several tests for dislocation, and they believed Dr. Wallace had acted with reasonable care and skill. The jury returned a verdict for Dr. Wallace.

The Transfer of Lunatics to the Belfast Workhouse.

An inquiry into the circumstances connected with the transfer and death of two patients who were transferred from the County Antrim District Asylum to the lunatic department of the Union Workhouse was held in the board-room of the asylum on July 30th by Dr. O'Farrell and Dr. Courtenay, the Commissioners of Lunacy. Dr. Merrick (asylum medical superintendent), Dr. R. J. Purdon (visiting physician to the asylum), Mr. Graham (assistant medical officer to the asylum), Dr. Patrick (formerly in charge of the workhouse lunatic ward), and Mr. Duncan (medical officer of the lunatic department of the workhouse) were all examined. The result of the inquiry is expected to be shortly announced.

Queen's College, Belfast.

At the close of the summer medical session the following prizes were awarded:—Botany: Senior—R. A. L. Graham and W. D. Hamill; Junior—A. L. Black, H. B. Steen, and J. C. Rankin. Practical Chemistry: James Waddell, J. E. Clements, and Annie H. Crawford. Medical Jurisprudence: G. A. Hicks, F. C. McKee and G. C. R. Harbinson (equal), and J. E. White. Systematic Pathology: G. A. Hicks, G. C. R. Harbinson, and H. S. Anderson. Practical Pharmacy: R. L. Patterson and Isabel Addey Tate (equal), and C. K. Darnell.

Pensions in the Queen's Colleges.

Last week a deputation consisting of Professor Hartog and Professor Corby of Cork and Professor Townsend and Professor Kinkead of Galway proceeded to London for the purpose of bringing under the notice of the Irish Chief Secretary the anomaly by which pensions are granted to the Arts Professors of the Irish Queen's Colleges without question but are withheld from the majority of the professional professors. They had an interview with Mr. Gerald Balfour and also with Mr. Hanbury, Financial Secretary to the Treasury. They also interviewed influential Members of Parliament irrespectively of party, and I understand that they so thoroughly impressed those gentlemen with the justice of their claims that it has been decided to send a deputation of Members to the Chief Secretary in support of their action.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Action of the Roentgen Rays on the Skin.

THE astonishing properties of Professor Roentgen's "x" rays continue to engage the attention of the scientific world, and a most remarkable although undesirable effect produced by them was observed lately by Dr. Marcuse in Berlin. He was consulted by a young man seventeen years of age engaged in a physical laboratory, where for about four weeks his internal organs were examined every day by means of the rays and were demonstrated on a fluorescent screen for the entertainment of visitors. A fortnight after the beginning of the experiments on looking into a mirror he noticed that the skin of the left side of his face was redder than usual. He tried to reduce the colour by applications of vinegar, but he attached no importance to the matter and continued to work in the laboratory until an increase of the redness together with a desquamation of the epidermis induced him soon to leave his employment and to consult a medical man. Dr. Marcuse at his first examination observed that the left side of the face, which had been almost exclusively exposed to the rays, was strongly reddened—not a redness like that of erysipelas or dermatitis, but a peculiar red-brownish hue. There was no swelling, pain, or itching, but there was profuse desquamation on several spots, especially on the ear, and above the ear there was a patch larger than a penny where the hair had completely fallen out. The skin there was, however, not red as on the face, but white as in alopecia areata. The few remaining hairs were discoloured, thin, and, when microscopically examined, showed a marked degeneration. The rest of the skin, the mucous membrane of the throat, the eye, and the fundus oculi were unaltered, and the youth's general health was normal. The state of the skin on the back and chest was much more serious. The epidermis of the back was detached over an area the size of a soup-plate, the skin being covered by large blisters partly in a state of ulceration. The skin of the chest was a little less affected. It is worth mention that the patient had not noticed these alterations as there was no pain, and they were somewhat accidentally discovered by Dr. Marcuse. These pathological conditions were certainly due to the influence of the "x" rays, for the patient knew quite well that his skin was normal previously to the beginning of the experiments, and it was just those parts which had been most frequently exposed to the rays that were the most affected. This was the case especially on the chest and back, because observation in the laboratory was chiefly directed to the internal organs of the thorax. The clothing worn during the experiments was obviously no protection against the injurious action of the rays. The pathological process may be classified as dermatitis very like that produced by heat. The patient unfortunately left Berlin after a few days, and Dr. Marcuse had no further information regarding him. A similar case has been shown by Dr. Feilchenfeld at a meeting of the Berlin Medical Society.

A Medical Man practising as a Charlatan.

A homœopathist, who is unfortunately a legally qualified medical man, was arrested the other day in Düsseldorf, Rhenish Prussia, on a charge of imposture. He undertook the treatment of patients without seeing them, merely giving advice by letter and supplying secret remedies, one of which, known as "Unispi," was described by him as a panacea. The extent of his practice may be inferred from the fact that he employed twenty-two clerks in conducting his correspondence and preparing medicines. From 300 to 500 letters were written every day and from 100 to 160 patients attended during the office hours. So-called letters of thanks were inserted by him in from 500 to 800 newspapers all the year round and he spent annually a sum of 160,000 marks (£8000) in advertising. His income was

estimated at from 420,000 to 450,000 marks (from £21,000 to £22,500), and after his arrest he offered security to the amount of 200,000 marks (£10,000), but was not admitted to bail by the judge. It is difficult to understand how such an individual could for many years succeed in deceiving great numbers, not only among the illiterate, but also among the educated classes. The local medical association was constantly taking proceedings against him, but in the present state of the law its efforts were ineffectual, and his practice might have continued to flourish if some of his doings had not, as is alleged, infringed the criminal law. In the next session of Parliament there will be legislation on the subject of medical practice, and one effect of the measure to be passed will be that the holders of medical diplomas will be deprived of the power to commit such abuses. Some interesting disclosures may be expected at the forthcoming trial.

Prince Bismarck, M.D.

The Medical Faculty of the University of Jena has conferred the title of M.D. *honoris causâ* on Prince Bismarck. The diploma was presented to him on July 20th, the twentieth anniversary of the establishment of the Imperial Health Office, and it specially mentions that this central board, which controls the sanitary and hygienic administration of the Empire, owes its origin to the Prince. The new M.D. is already in possession of the honorary degrees of Doctor of Law, Doctor of Theology, and Doctor of Philosophy, these academic distinctions having been conferred upon him by other universities.

Aug. 1st.

ROME.

(FROM OUR OWN CORRESPONDENT.)

A Floating "Black Hole of Calcutta."

YET another has to be added to the many disasters which, from first to last, have made the Ethiopian expedition so dark a page in Italian history. Early in the year I described the "raw haste, half-sister to delay" with which reinforcements were being sent to the seat of war; how regiments were shipped in passenger steamers for want of adequate transport service; how these vessels plying between Naples and Massowah had from overcrowding become positive carriers of infection, till one of them on the return voyage developed typhoid fever on board necessitating the destruction of much of its bedding and linen stuffs ere it could again be employed without danger. In fact, the passenger service between the Italian and Egyptian ports, never famous for cleanliness, had become so compromised that the travelling public were warranted in thinking twice before availing themselves of its facilities. Unadmonished by that experience the Italian authorities, in reconveying the troops, released prisoners, and officials *en congé* to the mother country, have again postponed hygienic to other considerations, with the result that the passenger steamers employed have been fearfully overcrowded, and one of these, a ship belonging to the Navigazione Generale Italiana (the *Manilla*), has been described as a "floating black-hole of Calcutta." Its capacity was strained to a limit scarcely compatible with common comfort when it had 1300 passengers on board, but on leaving Massowah on the 15th ult. 300 more were added, bringing the total up to 1600. The sufferings of the poor fellows before reaching Naples may be imagined. Wholesome respiration is reported to have been impossible. Many sick and wounded were among the number, and in every case their maladies or lesions were frightfully aggravated by the putrid air they breathed, till at least three deaths were announced, and one linesman from Piedmont, having succumbed during the great heat of the Red Sea passage, was flung overboard at Port Said. "Le nostre sofferenze sono state indescrivibile. Eravamo piqiate come le acciughe" (Our sufferings have been indescribable. We were packed like so many anchovies) was the unanimous representation of the survivors. The *Opinione*, itself a Government organ, reflects severely on the short-sighted economy which, rather than increase the number of steamers engaged, subjected the passengers to privations and agonies beggaring all description, while public opinion is clamorous for a stern and stringent inquiry into the breach of regulation by which the normal transport capacity of the *Manilla* and other steamships was so flagrantly and disastrously set at nought. As I write, indeed, I am informed that the Minister of War, General Pelloux, has telegraphed to Massowah ordering a thorough investigation to be made into what turns out to have been a "trasgressione degli ordini precedentemente dati circa il carico dei piroscafi rimpatrianti le truppe" (violation of the orders previously given as to the lading of the steamers conveying the troops home).

National Congress of Hygiene.

As stated in THE LANCET of Aug. 1st, p. 334, Turin will in 1898 be the scene of a great "Esposizione Nazionale," which will be utilised in the interests of medicine and hygiene. The Commission which will then discuss and report upon the thesis of "Apparent Death" is only one of these concurrent attractions from the medical point of view. Another will be the National Congress of Hygiene already being organised by the "Società Piemontese d'Igiene." The subalpine school will have representatives in Paliani, Mosso, Bizzozero, and others of European reputation; "adesioni" of equal weight are expected from the Ligurian and Lombardo-Venetian schools; while every facility will be afforded to the sanitary delegates of other nationalities to reinforce the discussions and enhance their interest.

Aug. 3rd.

PHILADELPHIA.

(FROM OUR OWN CORRESPONDENT.)

Teaching a Blind Deaf-mute to Speak.

A MEETING of the American Association to Promote the Teaching of Speech to the Deaf was recently held in this city. Many papers of value were read, but chief interest centred in that truly wonderful girl, Helen Keller. When nineteen months old she became deaf, dumb, and blind. She received no instruction until she was seven years of age, when Miss Sullivan of the Perkin's Institute, South Boston, took charge of her and taught her the manual alphabet. A year later Miss Fuller of the same institute undertook to teach her to speak. The child's hand was passed over Miss Fuller's face, neck, and mouth, the various parts used in phonation. At the same time the latter sounded the elements of speech. The child was exceptionally bright and soon learned to speak, and it is of interest to note that her first connected speech was descriptive of a visit to Dr. Oliver Wendell Holmes. She now converses fluently and by placing her fingers on a speaker's lips understands all that is said. She also speaks French, recites, and, indeed, is more capable than the majority of girls of her own age (sixteen) in full possession of the three senses lacking in her.

Proposed Legislation for Dentists.

The dentists of the State have framed a Bill for presentation to the next Legislature, asking for the proper regulation of the profession in the State. Among other things it states that the Board "shall issue licences to practise dentistry to such applicants as have presented satisfactory and properly certified copies of licences from State Boards of Dental Examiners, or State Boards of Health from other States, or as have successfully passed the examinations of the State Board of Dental Examiners." The subjects for examination which all candidates for the licence to practise dentistry in the State will have to pass are as follows:—General anatomy and physiology, special dental anatomy, dental histology, dental physiology, chemistry and metallurgy, materia medica and therapeutics, dental pathology, anæsthesia, and principles and practice of dentistry. Each candidate must satisfy the Board that he is proficient in the manipulative procedures of dentistry.

Organisation of Opticians.

The opticians are endeavouring to form a State organisation with the following objects:—First, the elevation and advancement of the profession and the mutual intercourse and benefit of its members; second, to encourage opticians to perfect themselves in the study of optics and the scientific adaptation of lenses in correcting errors of refraction; and, third, to discourage the haphazard and indiscriminate sale of spectacles by irresponsible and ignorant persons.

Suppression of Street Noises.

The patience of this staid old Quaker city is about exhausted or our "city fathers" would not have awakened to the necessity of regulating street noises. Even now their action

is not sufficiently radical. The Bill provides that itinerant organ-grinders and peripatetic musicians generally shall not play (!) on the highways between the hours of 9 A.M. and 10 P.M., or before hospitals, schools, and churches, and when requested to move must go not less than 250 feet from the place. This is a very modest beginning, for many more of the noises could be dispensed with. When the city was paved with cobbles the continuous rattle and din of light and heavy vehicles obscured almost all else. Since they have been replaced by asphalt and Belgian blocks, however, the discordant cries of the vendors and ragmen, the ringing of bells and blowing of whistles, &c., seem to jar unmercifully. There is no excuse for their existence, and it is to be hoped that public indignation will some day rise up against them.

Medical Appointments.

Dr. A. C. Abbott has been appointed to succeed Dr. Billings, who recently resigned the chair of Hygiene in the University of Pennsylvania.—Dr. Joseph McFarland, Demonstrator of Pathology and Bacteriology at the University of Pennsylvania, has been appointed Professor of Pathology at the Medico-Chirurgical College.—Dr. George E. de Schweinitz has been appointed to succeed Dr. Thompson, resigned, as Professor of Ophthalmology at Jefferson Medical College.—Dr. Harris of Georgia has been made Assistant Professor of Pathology in the same institution, and Dr. W. S. Jones and Dr. Braden Kyle Clinical Professors of Laryngology.

Obituary.

JOHN PRANKERD, F.R.C.S. ENG., L.S.A.

WE regret to record the death of Mr. John Prankerd, F.R.C.S. Eng., who passed peacefully away at Briarfield, Torquay, on July 21st, at the advanced age of eighty-two. Mr. Prankerd was born at Langport, Somersetshire, on Jan. 5th, 1814; he was educated at Langport Grammar School and afterwards articled to Mr. Mitchel of that town. He received his subsequent professional education at University College Hospital, and qualified as L.S.A. in 1837 and M.R.C.S. Eng. in 1838. He then started practice in Langport, and for upwards of forty years was known throughout the country for a circuit of many miles as a sterling, trustworthy, and intelligent practitioner, whose opinion and assistance were invaluable in cases of emergency. He was elected F.R.C.S. in 1861, and represented the West Somerset Branch on the Council of the British Medical Association for many years, having been elected president of that branch. He retired from practice in 1878, and resided at Bath, Highbury, and eventually settled in Torquay. He was beloved by all who knew him and was as fine a man religiously, morally, and mentally as he was physically, and in this latter respect he was almost a giant. He has left a widow and three sons—one a clergyman, another a medical man, and the third a barrister.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Factory Inspection.

IT is understood that as the result of recent factory legislation increasing the area of inspection the Home Office have in contemplation the appointment of a number of additional lady inspectors. The work of the existing lady inspectors is recognised as of the highest value both by the Home Office authorities, and by the operatives in the factories, workshops, laundries, &c., which they are in the habit of inspecting.

Poor-law Unions in Ireland.

The Government do not see their way to proceed this session with their Bill for the amalgamation of Poor-law unions in Ireland, but for the purposes of discussion in the country the Bill will be introduced and printed.

Ventilation of the Metropolitan Underground Railway.

In the House of Lords on Thursday, July 30th, there was a long debate on this subject. It arose on the motion for the third reading of the Metropolitan Railway Bill. As originally put forward this Bill contained proposals for the ventilation of certain parts of the railway, but they did not meet with approval at the hands of the Select Committee to whom the Bill was referred, and consequently they were removed, and the main question raised in the debate on the third reading was whether the company should be compelled to accept arbitration on the question of ventilation. The general sense of the House appeared to be that this was too harsh a measure to impose on the company, although all the speakers agreed that something must be done to improve the atmosphere on the railway. The practical suggestion was made by the Earl of Dudley, Parliamentary Secretary to the Board of Trade, that next session a Departmental or a Select Committee should be appointed.

HOUSE OF COMMONS.

THURSDAY, JULY 30TH.

Diphtheria Antitoxic Serums.

Mr Harry Samuel asked the President of the Local Government Board whether his attention had been called to the report of the Special Commission on the Relative Strengths of Diphtheria Antitoxic Serums published in THE LANCET of July 18th, 1896, in which it was shown that the antitoxic serums now in the market in this country vary greatly in strength; whether he was aware that the Government in Germany had instituted a State laboratory, of which Professor Ehrlich is now the head, for the express purpose of testing the antitoxins produced by manufacturers and certifying the strength of serum contained in each bottle, which is then sent out bearing the Government stamp and seal; and whether, having regard to the conclusions of THE LANCET Commissioners, he was prepared to take steps similar to those already taken in Germany to ensure that the strength of the antitoxic serums employed in this country shall be maintained at a uniform standard.—Mr. Chaplin replied: I am aware that according to the report referred to the antitoxic serums sold in this country vary much in strength, and the statement in the question as to the action taken in Germany is, I believe, correct. The powers vested in the Local Government Board have reference to the prevention of disease in connexion with sanitary administration and not the cure of disease, and they, therefore, are not empowered to control the sale of any remedy for the treatment of disease. Moreover, it appears to me that there would be considerable difficulty in the Government undertaking to control the purity or strength of one particular remedy. The Sale of Food and Drugs Acts are intended to provide a remedy for the sale of drugs to the prejudice of the purchaser.

Disease in the Indian Army.

Major Rasch asked the Secretary of State for India whether his attention had been drawn to the fact, as stated by the Sanitary Commissioner to the Government of India in his report for 1894, that 3062 men were constantly ineffective from venereal disease, and how, on an emergency, the Government would propose to replace them in the ranks.—Lord George Hamilton replied that he had observed with regret the reported increase in the average number of European troops disabled at one time from venereal disease. He was not aware of any means by which they could be replaced on an emergency.

FRIDAY, JULY 31ST.

Water-supply in East London.

Mr. Chaplin, President of the Local Government Board, intimated, in reply to a question, that he had been informed that the New River Water Company and the East London Water Company had come to an arrangement by which the former would be able to provide the latter with an additional supply of 3,000,000 gallons daily. Not only so, but General Scott, the Water Examiner to the Board, had been informed by the secretary of the East London Company that the directors were most anxious to do all in their power to alleviate any distress occasioned by the present drought, and that the company would undertake to defray to any reasonable extent the cost of distributing receptacles for storing water to the poorest classes of householders who do not possess vessels suited to the purpose.

TUESDAY, AUGUST 4TH.

Interments in Scotland.

Captain Pirie asked the Lord Advocate whether, in view of the probable re-introduction of the Public Health (Scotland) Bill, he would take measures to alter the law dealing with interment after death so as to enable the sanitary authority or the parish council to immediately provide a coffin and to carry out the funeral in such cases where the friends of a deceased person are unable to pay for or undertake the interment themselves, instead of being obliged, as at present held to be the law, under the operation of Section 43 of the Public Health (Scotland) Act, 1867, to delay the interment until the corpse had become a nuisance and a danger to public health.—The Lord Advocate replied that the point referred to by the hon. member would be considered in the event of a Public Health Bill being introduced next session.

Indian Government and the Pasteur Institute.

Mr. Samuel Smith asked the Secretary of State for India to explain whether the Government of India were officially promoting the foundation there of a Pasteur Institute, or whether the Indian Medical Department was doing so, and, if so, by whose authority?—Lord George Hamilton replied that he had no information later than 1894 when the Government of India reported that they had promised, subject to certain conditions, the services of a medical officer to the Pasteur Institute, which they explained was quite distinct from any Government Department.

WE regret being compelled by the great pressure on our space to hold over the pass-lists of several of the universities and corporations. We shall, however, publish them at the earliest possible opportunity in accordance with our invariable custom. Meantime we crave the indulgence of our readers for the delay.

THE BRITISH MEDICAL ASSOCIATION.

MEETING AT CARLISLE.

THE GENERAL MEETINGS.

THE THIRD GENERAL MEETING.

The third general meeting was held in the new Public Hall upon Thursday afternoon, July 30th, Dr. BARNES, the President, being in the chair. The proceedings were opened with the Address in Surgery delivered by Dr. Roderick Maclaren, which appeared in our issue of Aug. 1st. After this came the great event of the meeting—namely, the presentation to Surgeon-Captain Whitchurch, V.C., of the Association Gold Medal of Merit.

Dr. BARNES referred to the honours conferred upon Surgeon-Captain WHITCHURCH, and through him upon the profession. He gave a short *résumé* of the operations at Chitral and of Surgeon-Captain Whitchurch's gallant behaviour and then formally presented the medal, the whole audience rising to their feet and cheering. Surgeon-Captain WHITCHURCH briefly and modestly replied.

The greater portion of those present, including Dr. Barnes, then left for the garden-party given by Mr. Saul of Brunstock. Dr. SAUNDBY, the new President of the Council, then took the chair and the meeting proceeded with the notices of motion left over from the previous day.

On the matter of medical defence the meeting began the consideration of the scheme adopted by the council on June 18th, 1896. After a long debate the following result was arrived at.

Mr. T. GARRETT HORDER carried a motion to the effect that the Council should be recommended to form a committee to consider the report of the Council, and that some of this committee should be members outside the Council.

Mr. VICTOR HORSLEY proposed and carried a resolution to the effect that the obligations of medical defence should be shared equally by all members in the United Kingdom, and that subscriptions towards this object should be made obligatory.

Mr. JAMES STEWART proposed the following motion:—

"That the action of the medical practitioners in Lincoln who resigned, in the interests of the profession, their club is worthy of commendation on the part of the profession."

He made a long speech recounting the incidents at Lincoln, and the resolution was unanimously carried.

Mr. COLIN CAMPBELL then moved the following resolutions:—

1. "That the thanks of the British Medical Association be hereby tendered to Mr. C. G. Wheelhouse and Sir Walter Foster for their earnest and valuable work as Direct Representatives on the General Medical Council during the past ten years."
2. "That this meeting most urgently requests them to reconsider their decision not to again serve, and pledges itself to support them by every means should they consent to be nominated for a further term of office."

He was proceeding to treat them as one motion, but at the appeal of the President he consented to divide them.

The vote of thanks was carried unanimously.

Concerning the second part of the motion Mr. Campbell made a long and earnest speech, at the conclusion of which

Dr. S. WOODCOCK rose and said that he had Mr. Wheelhouse's authority for saying that he (Mr. Wheelhouse) did not want to be nominated, if nominated he did not wish to be elected, and if elected he would not serve.

A MEMBER in the body of the hall then moved the previous question, which was carried, thus precluding further debate.

The next motion on the paper—that of Mr. LAWSON TAIT concerning the case of Kingsbury *v.* Hart—had, as was mentioned in our issue of Aug. 1st, been withdrawn.

Dr. KINGSBURY then moved—

"That no anonymous attack on any individual direct or covert, editorial or otherwise, be published in the *British Medical Journal* without having first received the approval of the President of the Branch in whose area the individual resides, as well as that of the President of the Association."

Dr. Kingsbury commenced by distributing copies of a pamphlet entitled "Editorial Ethics," in which he dealt with his case, and then proceeded to speak upon it. He alleged that Sir Thornley Stoker, Sir Dyce Duckworth, Dr. Ward Cousins, and Dr. A. G. Bateman had been paid considerable fees for going down to Manchester to give evidence. He was especially severe upon the last-named gentleman as being the secretary of the Medical Defence Union. However, it was pointed out to him that Dr. Bateman attended in a private and not an official capacity, and the chairman challenged the accuracy of some of Dr. Kingsbury's statements, but, being asked by Dr. Kingsbury to correct them, declined.

Mr. HART said that, as editor of the Association's *Journal*, he would warn the meeting that if the motion was carried it would mean the stoppage of the *Journal*, for the motion would preclude any editorial comment whatever. A long discussion followed, and in the end Dr. Kingsbury withdrew his motion.

THE CONCLUDING GENERAL MEETING.

The concluding general meeting was held on Friday, July 31st, in the new Public Hall. The proceedings were confined to reporting the resolutions passed in the section of Public Medicine on July 30th (see pages 426–30), and the formal voting of thanks.

MEDICINE.

WEDNESDAY, JULY 29TH.

Diagnosis and Treatment of Cardiac Failure.

Sir T. GRAINGER STEWART, in opening this discussion, said that under the term "cardiac failure" he included all conditions in which the muscular fibre of the heart becomes unfit adequately to carry on the circulation whether due to disease proper to the muscle itself or to the valves or bloodvessels. After briefly referring to the consequences which follow upon this condition he passed to the question of the various means which we can employ for its remedy. Among all the agents at our disposal the most important is rest, which by relieving the heart of extra work enables it to recover tone. While rest is good in all severe cases of cardiac failure it brings out the most striking improvement in those who engage in labouring work, because, by the time that a man who leads a comparatively easy life begins to exhibit the general symptoms of cardiac failure his cardiac muscle is, as a rule, so much deteriorated as to be less capable of a rally than that of the labouring man exhibiting corresponding symptoms. Second in importance is the element of hope. When a patient knows himself to be suffering from formidable cardiac disease and daily feels the discomfort and miseries attendant upon his cardiac failure he is apt to be gloomy and disheartened, and this damages the organ in a way that we cannot at present fully explain. If such a patient becomes persuaded that he can recover he becomes more hopeful about himself and his heart benefits correspondingly. Next to rest ranks diet. Among hospital patients an increased allowance of nourishment, and especially of nitrogenous material, is often attended by striking benefit, while in private practice the amount of rich food may have to be curtailed and the use of directly unsuitable articles has to be forbidden. Many cardiac patients err in taking too much liquid with or soon after meals—a habit which not only interferes with digestion and tends to the development of obesity, but also renders the circulation more difficult by keeping at a high level the volume of blood and impairs the nutrition of the heart by increasing its load of fat. A "dry diet" is often of great service in heart cases. In regard to the use of alcohol as an article of diet, while any excess is to be strongly deprecated in all cases of threatening cardiac debility, and its use in any form which is unsuitable to the stomach to be forbidden, its employment in moderate doses is often of great service, more especially in such forms of cardiac debility as of late years were seen following influenza or in the advancing cardiac weakness so common in later life. The best form of alcohol is, in most cases, whisky, the amount of which for habitual use should never exceed four ounces in twenty-four hours. Tea, coffee, cocoa, and other non-alcoholic stimulants, as well as tobacco, must be discontinued if they are found to disturb the action of the heart. Exercises have to be considered in three different forms: (1) passive exercises, including massage; (2) movements with regulated resistance after the method of the brothers Schott; and (3) more active movements, as in hill climbing, after the method of Professor Oërtel. Sir Grainger Stewart said that his own observations applied mainly to the first and second of these methods, and that the effects of this form of treatment could be judged of (*a*) by careful percussion of the heart before and after the exercises, noting the immediate result as it came out after each *séance* and the ultimate effect produced after a course of exercises;

(*b*) by the character of the cardiac sounds; (*c*) by the rate and character of the pulse; and (*d*) by the sensations experienced by the patient. The alterations which the area of dulness showed under treatment were often quite unmistakeable, and could not, in his opinion, be explained in any other way except by changes in the state of the heart itself. He had fully satisfied himself by observation on the dead body that he could rely upon percussion for determining the size and outline of the heart, but he also wished to point out that the success in photographing by means of the Roentgen rays the thoracic and abdominal viscera achieved by Dr. Macintyre of Glasgow would enable changes in the heart to be demonstrated in a way that was absolutely conclusive. He exhibited specimens of Dr. Macintyre's work. The various forms of exercise were then taken in detail.

1. *Passive exercises.*—After describing these in detail Sir T. Grainger Stewart said that he had been able to satisfy himself from his experiments (1) that in the great majority of cases of cardiac dilatation the area of cardiac dulness diminishes perceptibly during each administration of massage; (2) that the character of the cardiac sounds and the rhythm and strength of the pulse correspondingly improve; (3) that the patients usually experience a sensation of comfort and feel the better for the treatment; (4) that on one or two occasions he had seen the manipulations produce the opposite effects in all these particulars, apparently because the heart was feeble and the patient fatigued at the time of application; (5) that although the immediate favourable effects pass off in a few hours they frequently do not pass off completely, for the line of cardiac dulness was often found within that at the previous *séance;* (6) that repeated applications of massage bring about a permanent diminution of the area of dulness with improvement of pulse and of the patient's sensations; and (7) that he had seen a case in which the Schott movements produced a deleterious effect, rendering the heart more irregular and intermittent, which was treated on the following day by this method of passive movements with the most striking benefit. It seemed that the patient was not sufficiently well to bear the active movements though benefiting by the passive. In illustration of these conclusions he showed the percussion outlines of several cases. With regard to the physiological explanation of the effects of this form of treatment he referred in detail to the effects of massage on the circulation, and concluded that the exercises must relieve an overloaded heart, mainly in a direct mechanical way by improving the circulation of lymph within the tissues, and by gathering into the muscles a larger amount of blood, thus making the work of the muscular fibre of the heart more easy. But in addition, considering the delicate, nervous relationships which are known to exist between different parts of the circulatory system, it might well be supposed that through this channel also the circulation may be benefited and the mechanical change in the condition of the heart and pulse brought about.

2. *Movements with regulated resistance after the method of Schott.*—These are a modification or development of the Swedish system of gymnastic exercises which has been carefully worked out by the brothers Schott of Nauheim, and consists of a series of exercises so regulated as to secure that there should not be any excitement of the heart or respiration. His experience of this method of treatment had satisfied him (1) that in a large proportion of cases it effects immediate improvement of the heart, as shown by percussion and auscultation; (2) that in many cases the rhythm of the pulse improves and the beat becomes more vigorous; (3) that while the immediate effect is in a sense temporary the heart rarely goes back to its previous condition of dilatation, but remains somewhat smaller than it had been before the exercises; and (4) that gradually improvement of a lasting kind sets in, so that the heart recovers its tone and the area of dulness diminishes. In illustration of the effects of the movements he showed the percussion outlines of a number of cases—one observed at Nauheim in August, 1895, the others patients treated by this method in the Royal Infirmary, Edinburgh. The results showed even more unmistakeable improvement in the size and tone of the heart than those obtained by means of passive exercises, and he had no doubt that as experience accumulates and skill increases the results of this treatment will be even more remarkable. Turning to consider the physiological explanation of these results he recalled the chemical and physical effects of really active muscular exertion on the circulation, the outcome of which is a diminution of peripheral resistance, a fall of arterial blood-pressure, and an increased venous inflow into the heart. Even allowing for this rise in venous inflow, the proportion of blood in the muscles is so augmented that the work of the heart in propelling the blood is rendered easier up to a certain point—namely, that at which the greater influx from the veins comes to demand a greater ventricular effort. The resisted movements are so conducted and so regulated that the heart's action is kept short of the point of increased demand and its work is thereby facilitated. It is not improbable also that to a certain extent the vasomotor changes resulting from the alteration of the blood produced by exercise may further help to relieve the heart from peripheral resistance. This system of resisted movements would then appear to be best suited to cases in which a certain power of heart exists, while the mere passive exercises of massage would be applicable to weaker conditions of the organ.

3. *The method of Oërtel by climbing heights.*—Sir T. Grainger Stewart had not been able to make of this as careful experimental a trial as he had done of the passive and resisted exercises, but he had seen enough to satisfy him that in a certain proportion of cases and at certain stages of the treatment the method is attended by excellent results. But obviously it is not so widely applicable, for if there are cases in which the resisted exercises are attended by a certain amount of danger, still more must we recognise this method as unsuitable in a considerable proportion of cases. In this form of exercise a greater muscular power of the organ is demanded than the Schott system requires, and patients may often be found ready for this kind of treatment after passing through preliminary courses of the passive exercises and resisted movements. It has the great advantage of being carried out in the open air and often in specially salubrious localities.

Baths.—A very important part of the treatment at Nauheim consists of baths. After describing the chemical and physical properties of the Nauheim water and the rules adopted there in the treatment of cardiac cases, and after showing how the Nauheim baths may be successfully imitated in this country, Sir T. Grainger Stewart went on to say that as the result of his observations at Nauheim and the experiments which he had conducted in Edinburgh (the latter proving that it was the combination of salines with carbonic acid which best brings out the effects) he was able to say that this method produced changes as definite in the area of cardiac dulness with slowing and strengthening of the pulse as those he had described as resulting from the exercises. He showed tracings of the effect of the baths in some of his infirmary patients suffering from various cardiac lesions. It is probable that the effects of the baths are due to mechanical dilatation of the vessels, diminishing peripheral resistance, thereby rendering the work of the overtaxed heart easier. Inasmuch as the natural physiological effect of the diminution of peripheral resistance should be a quickening of the heart's action and a fall of arterial pressure, it is probable that the slowing of the heart's action and the rise of the pressure, which is proved to be produced by the bath treatment, may be explained by the circumstance that the heart has been acting irregularly and too quickly in consequence of its unfitness to meet the demands made upon it, and that when it is relieved of a proportion of the blood which was overfilling its chambers it becomes equal to its work and performs it more slowly and more efficiently. It might also be true that with the attraction of blood to peripheral vessels the influx of venous blood to the heart is increased, the remora being diminished; and so long as this influx does not rise beyond the heart's power of propulsion the action becomes more vigorous and the arterial tension is raised, the balance of the circulation being improved. He did not, however, feel prepared to exclude the view that the influence of the baths is largely upon the nerves of the skin acting in a reflex manner upon the innervation of the heart and of the vessels. In practice the exercises and the baths are usually combined, and the secret of Dr. Schott's success seemed to consist in his large experience of heart cases and his skill in combining the various methods of treatment. But in his (Sir T. Grainger Stewart's) judgment neither the individual forms of the exercises, nor the baths, nor even the combination of the two, was entitled to displace our former treatment by means of rest, diet, and medicines, and in this his opinion entirely accorded, he believed, with that of Dr. Schott. But each method of the exercises and the baths, and, still more, their combination, constituted a very valuable addition to the older methods of treatment, and might enable us to dispense

with medicines in cases where they are not well borne. The baths should be tried in all cases, and where there is grave debility of the heart he should employ the passive exercises; where the heart has somewhat greater vigour he should use the resisted exercises of Schott, varying them from day to day according to the precise condition of the patient. When the cardiac tone is sufficiently restored he should use the method of Oërtel.

Reference was next made to the use of *medicinal remedies* in the treatment of cardiac failure. Speaking first of cardiac tonics, in his experience digitalis had proved the most valuable of the heart tonics for increasing the elasticity and contractile power of the heart muscle, steadying and strengthening the pulse and relieving dyspnœa and other pulmonary symptoms. He did not consider that the theoretical objection to its use on account of its power to contract the arterioles had been borne out by clinical evidence, although to combat that tendency, especially when the heart failure was associated with cirrhotic Bright's disease or with sclerosis of minute vessels, he had often given the nitrites along with digitalis with apparently good effect, although he admitted that experiments on animals had failed to confirm the value of such a plan of treatment. Next to digitalis he placed strophanthus as a cardiac tonic, for the knowledge of which medical science was almost entirely indebted to his colleague, Professor Fraser. The contention of Professor Fraser, that, while exerting such a powerful influence upon the contraction of the heart muscle, strophanthus had little influence upon the muscular fibres of the arterioles, had been questioned by other observers, who claimed to have proved that it contracts the arterioles of mammals though not of frogs. Even admitting that this is probably correct, yet its influence in contracting the arterioles is much less marked than that of digitalis, and so far it has the advantage, and it would theoretically appear that strophanthus ought to give the better result; but in his experience of it clinically, it had not been equal to digitalis. Unquestionably strophanthus is of greater service in an emergency and helps the heart more rapidly than digitalis can, and this is a point of immense importance, which must be kept in view in cases of urgently threatening cardiac failure. In some cases strophanthus may be borne when digitalis produces stomach disturbance, or the reverse may be the case. Brief reference was made to the use of caffeine and diuretin and the importance of nux vomica and strychnia as cardiac and general nervine tonics when other remedies are not well borne. Leaving the group of cardiac tonics, he then proceeded to the consideration of the remedies which relieve the heart by dilating the arterioles. For rapid action the foremost place is taken by nitrite of amyl. For producing prolonged effect sodium nitrite and nitro-glycerine were of first importance. As regards potassium iodide it may be held as proven that in ordinary doses it neither depresses the heart nor dilates the vessels; but in some cases, particularly where there is chronic inflammatory change still going on, it appears to aid the action of cardiac tonics.

He next referred to the means of dealing with the secondary results of cardiac failure, especially dropsy. He placed especial importance upon the tapping of the pleura. The amount of hydro-thorax is often unsuspected and out of all proportion to the dropsy elsewhere. Its presence greatly exaggerates dyspnœa and adds to the embarrassment of the heart, and he has often found that the removal of a small quantity, say twelve or fourteen ounces, from a pleura gives relief to breathing far beyond what one would naturally expect. Not only is direct relief thus given to heart and lungs, but it also favours the efforts of nature to get rid of dropsy elsewhere, according to the law that when a certain amount of relief is afforded mechanically the emunctories have a better chance of dealing with the remainder. In dealing with the question of cardiac failure he did not consider it needful to dwell upon the treatment of individual lesions of the heart, for in such a condition the treatment should be essentially the same whatever the lesion may be. He had never seen reason to condemn the use of digitalis in aortic cases, as some have done, and the only conditions in which he is inclined to urge great caution in the use of cardiac tonics is where one has reason to believe that the inflammatory process in the valves is still advancing, or that degenerative changes in the fibres of the heart were present, whether the latter be dependent upon disease of the coronary arteries or not. In the advancing inflammatory condition he prefers to avoid tonics and exercise entirely, to insist on absolute rest, and to prescribe arsenic and iodide of potassium, often with carbonate of ammonia, while in the degenerative changes in the heart he would employ tonics and exercises with the most scrupulous watchfulness. The various nervous symptoms—sleeplessness, pain, &c.—might often be relieved by beef-tea and alcohol at bedtime and during the night. Hoffman's anodyne is useful, but best of all is opium or morphia, which failing, sulphonal paraldehyde and the nitrites may be employed.

In conclusion, he said that, reviewing the whole subject, it is clear that heart failure may be most successfully treated by a judicious combination of various methods and not by the exclusive use of any one. In answer to the question as to whether patients should be recommended to resort to Nauheim he should in many cases advise them to do so because there they can have a favourable climate, valuable natural thermal baths, change of air and scene, and the advantage of the great experience and skill of Dr. Schott and his colleagues. But, as that gentleman himself has pointed out, essentially the same conditions may be obtained in our own country, and many a cardiac case might be sent with great advantage to Buxton, Harrogate, Bridge of Allan or other places which involve a less fatiguing journey and afford advantages very similar to those of Nauheim. The chances of doing good are vastly increased if a patient can be lifted out of his ordinary surroundings and occupations and he is left little to do beyond taking his baths and exercises and the other treatment required for his cardiac ailments. But now that the profession in England had become thoroughly acquainted with the methods, and looking to the good effects which had been obtained by the use of artificial baths, it was not necessary to go abroad.

In the discussion which followed Dr. W. P. HERRINGHAM (London) stated that he would confine his remarks to the question of the diagnosis of cardiac dilatation by means of auscultatory percussion as compared with the usual method of percussion. The question which of these two methods was most reliable and convenient was a very difficult one, and he had attempted to arrive at a conclusion by an examination of a large number of dead bodies. The borders of the heart, liver, or solid lung were made out by the ordinary and by auscultatory percussion, the outlines traced on the skin and on tracing paper, and marked by long pins driven through into the chest at frequent intervals. The bodies were then opened by the demonstrator of morbid anatomy and the position of the pins verified. Details pertaining to the heart alone were given; the results were similar for other solid organs. Ordinary percussion by the finger was found to be remarkably accurate. It was extremely rare for a pin to be over a quarter of an inch from the border of the organ. Auscultatory percussion, when practised with the many precautions needful, gave results which over the soft parts were nearly as accurate. But it was found to have many difficulties and drawbacks—viz.: (*a*) the skin resonance creates a "useless area" for an inch and a half round the stethoscope, which is much increased in fat bodies or when the skin is stretched; (*b*) at four or five inches from the stethoscope the difference of pitch is extremely difficult to appreciate, and the "useful area" is thus very limited in extent; (*c*) the method cannot be practised when the stethoscope is over a non-resonant area; (*d*) the method deprives the physician of the sense of touch, which is often a very valuable aid to the sense of hearing; (*e*) the note given by bone or cartilage cannot be compared with that from soft parts owing to the great difference in quality; and (*f*) over the sternum no results can be obtained of any value whatever and no diagrams purporting to map the heart out under this bone are trustworthy. This statement was illustrated from one of the diagrams published by Dr. Bezly Thorne in his original paper, and it was shown by the reader of the paper, first, that the upper border of the heart was therein portrayed as having moved two and a half inches upward, which is impossible; secondly, that the central fibrous point of the heart could not occupy the position assigned it in the diagram; and, lastly, that though a notch exists between the right auricle and the right ventricle this is not a feature of disease, but is quite as marked in the healthy as in the unhealthy heart. Dr. Herringham came to the conclusion from his researches: (1) that ordinary percussion is rather more accurate than auscultatory percussion, and that the latter method gives no results which are not more easily obtained by the former; (2) that auscultatory percussion lacks some of the advantages of the ordinary method and has many disadvantages peculiar to itself; and (3) that the ordinary method is undoubtedly to be preferred and is itself extremely accurate. The paper was illustrated

(*a*) by tracings from the surface of the chest; and (*b*) by tracings of hearts taken *in situ*.

Dr. LEITH (Edinburgh) referred to the great difficulty of percussing out the cardiac area during life, which he was convinced was very much greater than in the cadaver after death. The gentle exercises were, in his opinion, very efficacious in getting the blood back again to the heart and relieving the venous system; but he would have been glad to have heard from the opener an explanation of the manner in which these baths acted and why a solution of common salt and carbon dioxide should be able to produce such a powerful effect. He was rather inclined to think that the effect of hope and the mental effect on the patient were more important factors in the marvellous efficacy than the actual physical effect of the baths and exercises.

Dr. BEZLY THORNE (London) thought it a pity that the question of auscultatory percussion had been introduced into this discussion on the treatment of cardiac failure, and he did not feel it necessary to offer a reply to Dr. Herringham's objections, to which he had already adequately replied.[1] As regards rest it is the fundamental point in the treatment of all acute and extreme cases of cardiac failure. But in other less severe cases it was, he believed, absolutely harmful. If the heart muscle would respond to exercise then the patient should be submitted to exercise. However, massage was of great value in many cases. He agreed with others in thinking that the baths were more efficacious than the exercises, especially at the outset of the treatment, the exercises following afterwards with great benefit. The Oërtel and Schott treatments were in principle alike, but the latter should be the preliminary one because it could be more readily regulated. Combined with medicinal measures both were made more efficacious. He did not advocate the avoidance of liquids, but, on the contrary, thought after extensive trial that the administration of considerable quantities of liquid (especially warm water) greatly helped the patient by promoting diuresis and consequent elimination. It was his practice to give it, not at meals, which were dry, but half a tumbler of warm water at frequent intervals between meals.

Dr. R. SAUNDBY (Birmingham) believed that the two most important qualities in the baths were the temperature and the saline constituents. He had always observed that the pulse tension was raised by the baths and not lowered, as a previous speaker had stated. Dr. Schott had also shown the same fact. He thought that many of the same results had been obtained from the older methods of medicinal treatment and that these ought not to be neglected.

Dr. BYROM BRAMWELL (Edinburgh) objected to confining attention to any one method of treatment, for much could be done by the other methods which had been referred to by Sir T. Grainger Stewart. The causes of cardiac failure where either conditions which increased the peripheral resistance or else conditions which entailed a failure of the heart from some inherent weakness, and methods of treatment should be directed to one or other of these two ends—the first by rest or the second by cardiac tonics. The tendency was, he thought, to exaggerate the efficacy of the Nauheim treatment, especially among the public, who went there without any, or with fancied, cardiac ailment and naturally derived benefit; these patients coming back spread the fame of the place for the treatment of "pseudo"-cardiac disease. He had found a special method of treatment very efficient which consisted of three things—absolute rest of body, perfect rest of the stomach by rectal feeding, and large doses of digitalis. This was especially valuable in the treatment of the gastric disturbance so often concurrent, and which, like many of the complications, gave rise to greater discomfort than the actual disease of the heart itself.

Dr. T. D. SAVILL (London) referred to the great value of the Nauheim method of treatment in the condition which he had described under the name "Arterial hypermyotrophy" at the meeting of the Association (Pathological Section) in 1891, which probably corresponded to what was formerly described as arterial sclerosis, and which he was inclined to think was of far more common occurrence than was generally thought, judging from his experience at the Paddington Infirmary, where diseases of all kinds without selection were admitted. The change consisted of a hypertrophy of the middle or muscular coat of the arteries throughout the body. It had formerly been mistaken for a fibrosis, probably because very prolonged staining was necessary to bring out the rod-shaped nuclei characteristic of involuntary muscular fibres. It occurred in the subjects of premature old age, and in many a history of habitual excess of lithates in the urine was obtainable. Age, heredity, and gout were also important predisposing causes. As a result of the continuous insufficient blood supply, all the tissues and organs of the body were insufficiently nourished, tended to degeneration, and were more readily prone to inflammation and disease. The patients on this account gradually lost their former vigour, both mental and bodily, and the slightest exertion tired them and brought on breathlessness. The subjects of this condition would go on for a very long time without any symptoms or only occasional attacks of dyspnœa and perhaps vertigo. It was only when the heart failed to compensate by its hypertrophy for the increased peripheral resistance in the circulation that symptoms became evident. These consisted (in order of frequency) of breathlessness, coming on for the most part in attacks, slight syncopal attacks, and vertigo. He had found that the vertigo of the aged was in nine cases out of ten due to this condition, and angina pectoris was very frequently due to it also. The benefit of the baths and exercises in such cases was evident in several ways; first, by promoting the peripheral circulation they seemed to relieve the over-burdened heart and enabled it gradually to resume its normal volume; and, in the second place, by promoting the circulation through the tissues and organs the nutrition of these seemed to be increased and the patient lost the lassitude and other symptoms. Cases in illustration of these facts were mentioned, and one especially in which angina was the leading symptom and in which this painful condition had been markedly relieved.

Dr. HARRY CAMPBELL (London) referred to the fact that resisted movements and baths do good by producing a widespread tonic contraction of the muscles as well as an increase in the mean capacity of the lungs. The former factor augments the force of the heart-beat and attracts a large quantity of blood into the muscle arteries, while the latter factor favours the flow of blood into the right heart and through the lungs. Hence the total effect is to diminish the quantity of blood in the systemic veins and lungs and to increase it in the systemic arteries. This was, he thought, the simplest and most adequate explanation of the efficacy of the treatment under discussion.

Dr. ALEXANDER MORISON (London) regretted that the original intention of limiting the discussion to the consideration of the treatment of cardiac failure by active and passive exercises had been departed from, as the result had been a somewhat discursive conversation conveying information not altogether unknown to those present. He limited himself to a consideration of the clinical aspect of the treatment of cardiac failure by baths and exercises. He pointed out the necessity for a close medical supervision of the effects upon the patient of both baths and the exercises however administered, as, although potent for good, they were likewise calculated to do harm when unskilfully employed. He remarked upon the compatibility of this form of treatment with the contemporaneous use of drugs and other rational cardiac therapeutical measures. He quoted a case of double aortic disease with lost compensation to illustrate this point. He considered the question of cardiac shrinkage with this method and stated that remarkable diminution of the cardiac area was not necessary to an improved state of the patient and was, indeed, not frequently observed. The usual changes in the position of the apex beat were seen as improvement was consolidated. This point he illustrated by charts, one of which showed that a patient under Dr. Schott's care, who had derived great benefit from his treatment, had still when in good health a heart not much less than during his cardiac breakdown, although the position of the apex beat had come much nearer the middle line of the body. He considered the balneological and gymnastic treatment of heart disease a permanent addition to our means of treating cardiac failure, and expressed his obligations to both Dr. Groedel and Dr. Schott of Nauheim for their courtesy in assisting him in an inquiry into the method at Nauheim.

Dr. EDGECOMBE (Harrogate) had had the opportunity of making several experiments with plain water baths and also with the sulphur baths at Harrogate, which somewhat resembled those of Nauheim, combined with exercises. The effect of these was to produce an increased fulness and some diminution of the pulse tension, and the cardiac area was also diminished, but he did not observe any increase in the force of the apex beat. He thought the baths were more efficacious than the exercises.

[1] Brit. Med. Jour., May 9th, 1896.

Dr. LIDDELL (Harrogate), who had taken part in the experiments of the previous speaker, confirmed the effects of the Harrogate baths. He thought the carbonic acid acted as a stimulant to the skin and determined the blood to the skin. He could not think the mental effect on the patient had much to do with the results because patients had been submitted to the treatment who knew nothing of their maladies, or of the treatment proposed, or of the effect which it was expected would be produced. He thought that one of the chief indications for the administration of the baths was a high-tensioned pulse and that the strong sulphur baths were quite as efficacious as the saline baths.

Dr. HUGH JAMIESON (Edinburgh), Dr. NORMAN MACARTHUR, Dr. BAER (Liverpool), Dr. WM. RUSSELL (Edinburgh), Dr. KINGSCOTE, who described his pleximeter, and Dr. EARL, also took part in the discussion.

Sir T. G. STEWART, in replying, wished to add that he had made experiments in the infirmary, first, with ordinary Edinburgh water at Nauheim temperature, but without effect; secondly, with the same water plus the addition of the saline constitutents, but these had still no effect; thirdly, salines and carbonic acid were added and then he obtained the same effects as those produced by the Nauheim baths. From these experiments he concluded that it was the carbon dioxide in the water which was mainly instrumental in producing the marvellous results obtainable.

Auscultary Percussion and the Schott Baths in Cardiac Failure.

On the following morning at the Cumberland Infirmary Dr. BEZLY THORNE (London) gave a demonstration before a large assemblage of Auscultary Percussion and the Schott Baths and the various exercises (accompanied by slight resistance) employed in the treatment of Cardiac Failure. One patient was a girl aged eighteen years, suffering from dilated heart consequent on debility after gastric ulcer and hæmorrhage, whose pulse was 101, and the maximum boundaries of the præcordial dulness as estimated by ordinary percussion measured five and a-quarter inches transversely. She was submitted to a bath consisting of six pounds of common salt and eight ounces of calcium chloride, in twenty gallons of water at a temperature of 84° F., for about five minutes. After the bath the maximum transverse measurement of the præcordial dulness (as estimated by both ordinary percussion and auscultary percussion) measured four and a-half inches and the pulse-rate was 83. The pulse tracing before the bath showed very marked feebleness; after the bath it was still of low tension, but was increased in force. The other patient was a man about fifty-eight years of age suffering from dilated heart consequent on aortic valvular disease and general want of tone. Seven of the seventeen exercises were demonstrated on him, being slow flexions and extensions of the extremities slightly resisted by the operator. The exercises were too few and the time too short to show any marked result on the cardiac area, though this was slightly diminished. The pulse-rate was not slowed, but was rather quicker after the movements.

SURGERY.

THURSDAY, JULY 30TH.

The Surgical Treatment of Diseases of the Appendix Vermiformis.

A debate on this subject was opened by Dr. MACDOUGALL (Cannes), who commenced by saying that he did not intend to include in the subject such diseases as tuberculosis and actinomycosis of the appendix, but only those conditions which were inflammatory in origin; neither did he intend to speak of the pathology and etiology of the diseases of the appendix, though he thought that there was still much to be learnt in these subjects. His paper was chiefly intended to deal with the treatment. With regard to a classification of the varieties of appendicitis, he considered that they might be grouped into four classes: (1) mild cases; (2) cases going on to the formation of an abscess; (3) cases resulting in perforation; and (4) relapsing cases. In the mild cases, the first group, the pain was often slight, though it might be severe, but it tended to diminish; there was tenderness in the right iliac fossa, and the abdominal muscles over that region were rigid; the temperature might reach 102° or 103° F., but soon began to fall. Vomiting was not distressing; the facial aspect was natural, and the swelling which could at first be felt generally disappeared quickly. He considered that examination per rectum was of great service, especially in children. These cases should be watched with great care. Absolute rest in bed, a fluid diet, leeches or an icebag locally, and very small doses of opium comprised the treatment required. Aperients undoubtedly added to the risk, as by their use adhesions which had formed were liable to be broken down. If necessary an enema might be given. Drugs, such as salol, intended to promote intestinal asepsis, were useful. As a rule the case does well, the temperature falls, and the tenderness disappears. In the cases which go on to the development of an abscess the onset is generally of great severity. The pain is more acute, the tenderness more marked, the temperature higher, the pulse more rapid, and an obvious tumour is to be felt; this steadily increases in size, and the local signs augment in severity. The temperature may for a time decline but soon increases. The tenderness may spread all over the abdomen and thus may simulate general peritonitis. Even if no obvious tumour be present suppuration may have occurred. In cases of acute perforating appendicitis the severity depends chiefly on the position of the appendix. If it projects freely into the peritoneal cavity, when it is perforated it will set up general peritonitis, but if it be behind the cæcum the peritoneal cavity may escape. It is rare to get a history of any previous attack. The symptoms are very severe: the vomiting is persistent; the pulse is extremely feeble. The abdomen is rigid, or, it may be, much distended. The perforation may occur in a case which had seemed to be simple. Of the fourth class of cases, two varieties may be distinguished, the relapsing and the recurrent. In the relapsing form the patient has not recovered from one attack when another attack seizes him. In the recurrent form there are long intervals of health. Even in the worst cases of recurrent appendicitis much may be done, to prevent subsequent attacks, by rest in bed, the use of counter-irritation, and the administration of salol. Undoubtedly many cases of appendicitis are missed, and careful observation will recognise many cases which otherwise might be overlooked. Probably many cases are diagnosed as typhoid. The symptoms may point to gastric ulcer. He related the case of a young woman who for two weeks had complained of epigastric pain. This grew less, but four days before admission the pain had returned and had spread all over the abdomen, which was much distended. It was diagnosed as a perforated gastric ulcer. The abdomen was opened above the umbilicus, and the stomach was found to be healthy. Some resistance was felt in the right iliac fossa, but no definite swelling. The abdomen was closed. The patient died. At the necropsy there was found a large circumscribed abscess around the vermiform appendix. It is well, when in doubt, to think of the appendix. Two useful adjuncts in the diagnosis are anæsthesia and bimanual examination, with a finger of one hand in the rectum and the other hand on the surface of the abdomen. With regard to treatment there can be no doubt that in many cases no surgical interference is needed. In the perforated cases the only chance the patient has is from operation; and so a quick, thready pulse, marked abdominal distension, acute pain, and extreme tenderness are signs in favour of immediate interference. In children the rule should be to operate early. In the first forty-eight hours of a case of appendicitis an operation is simple, but it becomes more difficult later. Each case should be considered on its merits, and the question of the advisability of operating must not be decided merely by the duration of the case. In support of this he related the case of a little boy who complained of slight pain over the abdomen; there was no vomiting, the temperature was 99°, and the pulse quiet. Next day the symptoms were the same, but about 48 hours after the onset signs of general peritonitis appeared. The abdomen was opened and the appendix was found to be gangrenous already. After operation, if no general peritonitis be present, the wound may be closed without drainage; but if free perforation has occurred the abdomen should be opened in the middle line. The peritoneal cavity should be flushed out with normal saline solution at a temperature of 110°. When the abdomen has to be opened and pus is present but no general peritonitis has occurred, the peritoneal cavity can be easily shut off by means of sponges. With regard to the treatment of the appendix, it is poor surgery to search for and remove it in every case; if the appendix presents itself, it may be removed, but if it be not obvious or if it form part of the wall of an abscess it should be left. If obstruction of the intestine has occurred before the opening of an abscess resulting from appendicitis, first

deal with the abscess cavity, and then break down the adhesions, which are compressing the bowel. In recurrent appendicitis the appendix should be removed, but even in these cases it may have to be left. When removing an appendix, a peritoneal flap should be formed, as simple ligature is unsafe. There are four points on which information is desirable:—1. Are there such conditions as rheumatic and stercoral appendicitis? 2. What signs are of most value in deciding the question of early operation? 3. Should an operation be done when, in cases seen later, a firm, slowly growing, well-defined tumour is felt in the iliac fossa? 4. What is the best procedure for dealing with cases of appendicitis between the third and the sixth day? As to the results obtained, during three years 151 cases were admitted into the Royal Infirmary, Edinburgh, under the names of appendicitis and typhlitis, and of these 37 died—a mortality of 25 per cent. Taking the cases admitted into St. Bartholomew's Hospital from 1893 to 1895, and into St. Thomas's Hospital from 1892 to 1894, there were in all 208 cases; of these 39 died—a mortality of nearly 20 per cent. There is no doubt that early operation will save some cases, but the results are by no means so perfect as might be desired.

Mr. F. A SOUTHAM (Manchester) said that he would speak only of the recurrent form. During the last eighteen months he had had ten cases; in eight of these he had removed the appendix. In two cases the appendix was bent and bound down, in two it was distended with fluid, and in two it contained small concretions. In four there was suppuration—in three localised and in one generalised. For recurrent appendicitis the only treatment is removal, and this should be done during the quiescent stage. The operation should not be done after the first attack but after the second attack, especially if any local signs remain during the quiescent stage. Of the ten cases, only one ended fatally, and that was the one with general peritonitis.

Mr. RUTHERFORD MORISON (Newcastle-on-Tyne) said that a single attack of appendicitis might be the result of an accidental inflammation, which would subside and not reappear, and therefore operation should only be performed after a second attack. All cases in which an abscess had formed, and all cases in which perforation is certain should be operated on. As to the technique of the operation, the incision in the linea semilunaris is bad as the nerves to the rectus are cut (and this predisposes to hernia), and moreover drainage is difficult. It is best to put the incision as far back in the loin as possible. If an abscess be present it may show the ordinary signs of an abscess and it may easily be opened and drained; but if it be necessary to open the peritoneum the incision should be long and the appendix may be removed, unless it be in the pelvis; a pelvic abscess arising from appendicitis should be opened per vaginam in women. For diffuse peritonitis drainage and flushing were to be employed.

Mr. C. A. MORTON (Bristol) considered that it was impossible to determine in severe cases whether peritonitis had occurred or not, but one thing was certain, that many of the cases which now died of general peritonitis would have been saved by early operation. The operation itself was practically without risk. Morris of New York had had 59 cases in which an operation had been performed with no deaths, and Murphy of Chicago lost only two cases out of 141. Positive evidence obtained by examination per rectum was of great value, but negative evidence was utterly valueless.

Mr. JORDAN LLOYD (Birmingham) said that the most important part of the appendix was its free end, and the position of the free end determined what results should follow. The cases could be divided into four classes, according to the position of the free end. 1. If the appendix was in the iliac fossa the classical symptoms would be present and in this form there would be the iliac swelling, but in no other form. 2. If the tip of the appendix drop into the pelvis there will be no iliac swelling, but a swelling can be felt per rectum. 3. In the lumbar variety the appendix has swung back into the loin where a fulness is felt. 4. In the last variety the appendix projects into the abdominal cavity and the swelling is abdominal; and often resonance can be obtained on percussion between the swelling and the groin. With regard to treatment the incision must be varied according to the form present. If the pelvic variety is met with it must be opened from the vagina in the female or from the rectum in the male. He had had two cases of the former and three of the latter. In lumbar cases the incision must be a little above the iliac crest or just under the twelfth rib. If the abdominal variety be present, the incision should be over the swelling. For general peritonitis the incision should be median. He had never regretted operating early.

Dr. J. C. RENTON (Glasgow) said that in simple catarrhal appendicitis nearly every case recovered completely if the patient was kept at rest in bed for a sufficiently long time—for six or seven weeks. The diet, also, was of great importance. For relapsing appendicitis removal was the only treatment, and for this the incision should be as small as possible to prevent ventral hernia. He considered it an important fact that the pain was sometimes referred to the opposite side of the body. He had seen several such cases. He also thought it very important that no prolonged hunt for the appendix should be undertaken.

Mr. T. JENNER VERRALL (Brighton) said that the more often a case relapses, as a rule, the less severe it becomes. The most recent statistics of appendicitis were those contained in a paper by Dr. Hawkins and in Dr. Murphy's paper. Dr. Hawkins' statistics included 264 cases, with a mortality of 14 per cent.; of these, in one case there was no suppuration, and in 33 there was an abscess, and in eleven of these general peritonitis had resulted. Dr. Murphy's cases numbered 207 and the mortality was only 9 93 per cent. It was certain that early operation with removal of the appendix did remove the cause. It was important to make a large incision, and then with careful packing there was little risk of the general peritoneal cavity becoming affected. If general peritonitis had occurred the incision should be extended and the intestines well flushed with very hot water.

Mr. PAUL BUSH (Bristol) said that by the seventh or eighth day of appendicitis it had become very difficult to remove an appendix: in these cases it was advisable to do as little as possible and not to make a prolonged search. In very grave conditions it was undesirable to use a general anæsthetic and only a local anæsthetic should be employed.

Mr. MITCHELL BANKS (Liverpool) considered that many cases formerly called typhlitis, but now called appendicitis, were really cases of inflammation of the cæcum, and not connected with the appendix at all. In America the disease seems to be more common, and he had heard of an American lady complaining to her medical man of suffering from "a touch of appendicitis this morning." As to a classification, he could only recognise two forms—those outside and those within the peritoneal cavity. He had never succeeded in saving a case in which general perforative peritonitis had appeared. The incision he preferred was a good long horizontal one, just above the crest of the ileum, and reaching as far forwards as the edge of the rectus. He considered that in many cases of return of pain after appendicitis the pain was due to peritoneal adhesions.

Dr. MACDOUGALL, in reply, said that it was advisable to suture the abdominal wall in layers to avoid hernia.

Partial Excision of the Kidney.

Dr. OSCAR BLOCK (Copenhagen) read a paper on a case of Partial Excision of the Kidney. He remarked that it was important to do a partial excision of the kidney, if possible, in place of a complete nephrectomy, as it was impossible to be sure of the condition of the other kidney. The case he brought forward was as follows:—A boy, thirteen years of age, had complained for two and a-half years of pain in the right loin; the kidney on that side was felt to be enlarged, and the urine contained blood. A lumbar incision exposed the upper part of the kidney, which was felt to be normal, and no stone was to be found in the pelvis of the kidney; on exposing the lower portion of the organ it was found much enlarged. This portion was removed, only three arteries requiring ligature. The boy recovered, and nine months later he was still quite well. The growth proved, microscopically, to be adeno-sarcoma. Ten cases of partial excision were on record. The method was of course applicable only to benign tumours, such as adenoma, fibroma, and lipoma. There seemed to be no danger of a urinary fistula, and the hæmorrhage was easily controlled.

Sacral Method of Operation in Diseases of the Rectum, &c.

Dr. J. CAMPBELL (Belfast) read a paper on the Sacral Method of Operation in Disease of the Rectum and other Pelvic Organs. He said that this method had to compete with colotomy and not with the removal of a growth per anum. Colotomy was merely palliative and only permissible when the disease was too extensive to be removed. The sacral method allowed the limits of the disease to be seen; hæmorrhage was easily controlled; there was easy access to the tissues between the sacrum and rectum; and,

lastly, the action of the sphincter ani was unimpaired. For other pelvic diseases it was not so applicable. The incision that seemed to be best was from the right sacro-iliac joint to the left ischio-rectal fossa.

Some Experiences with Murphy's Button.

Mr. MITCHELL BANKS read a paper on this subject. He described six cases in which the button had been employed. The first case was one of cicatricial stricture of the ileum very close to the cæcum; the stricture was excised, and the button was used; it was unfortunately insecure, and the patient died twenty hours later. The second case was that of a man with a hard mass round the cæcum and a fistula from which came large quantities of liquid fæces. The ileum was joined to the side of the colon. The patient lived for eight months, dying from tuberculosis. The discharge of fæces by the fistula completely ceased. The third case was that of a man with malignant stricture of the descending colon, with much distension. Colotomy of the ascending colon relieved him, but he sank after an attempt to resect the growth. The fourth case was one of vesico-intestinal fistula. The abdomen was opened and the intestines were found much matted together in the pelvis. The involved portion was cut off from the rest of the bowel, its ends closed, and the other portions were joined by means of Murphy's button. The patient recovered from the operation, but died a few months later, probably from tuberculous disease. The fifth case was intussusception in a boy; it proved to be gangrenous and was excised, Murphy's button being used to join the bowel. The boy completely recovered. In the last case a woman had a strangulated femoral hernia which sloughed, and a fæcal fistula formed. The two ends were joined and the patient recovered. The button stayed a long time in the bowel and its position was observed by means of the Roentgen rays. The button was passed a few weeks later. Murphy's button was chiefly valuable because it was a very rapid method of joining portions of bowel, and rapidity was the chief thing.

A New Excipient for applying Drugs to the Skin.

Professor UNNA (Hamburgh) read a paper on the above subject. In 1894 he had brought forward some varnishes for the skin, which consisted chiefly of tragacanth. Tragacanth did not suspend heavy particles well unless it was present in a large proportion, and then the varnish did not spread well. He had found a perfect basis formed by the addition of gelatin to the tragacanth; the tragacanth probably surrounded the gelatin, as the mixtures could be used with drugs which could not be used with gelatin alone. The gelatin and tragacanth were present to the extent of 2½ per cent. each. Professor Unna suggested that the new basis should be first employed in cases of acute eczema.

Metatarsal Neuralgia.

Mr. A. H. TUBBY (London) read a paper on Metatarsal Neuralgia (Morton's Disease). The neuralgia was due to pressure on the digital nerves by the heads of the metatarsal bones. The gouty diathesis was often present, and a large corn was to be seen over the head of a metatarsal bone. When the transverse arch of the foot gave way and tight boots were worn the heads of the metatarsal bones were rubbed together, and the nerves were injured. Osteo-arthritic projections might be a cause. For acute attacks local anodynes should be used and no boots should be worn, but a bandage should be applied around the bases of the metatarsal bones causing their ends to separate. Boots with high insteps might be worn in slighter cases. If the pain was very intractable the head of the metatarsal bone might be excised.

Abscess of the Liver Discharging through the Lung.

Mr. C. A. MORTON described a case, as above, in which, after several unsuccessful attempts, the abscess was discovered and drained.—Dr. ARTHUR POWELL (Cachar) considered it probable that an abscess of the liver might readily arise from the use of a septic exploring needle. He was in favour of treating hepatic abscess by abdominal section, and was much opposed to puncture.

OBSTETRICS.

THURSDAY, JULY 30TH.

The Causation and Treatment of Secondary Puerperal Hæmorrhage.

A discussion on the Causation and Treatment of Secondary Puerperal Hæmorrhage was opened by Dr. AMAND ROUTH (London), wh began by defining the condition as hæmorrhage occurring after the medical man has left the house in which the patient has been recently confined; that is, any severe bleeding from an hour after delivery until the end of the puerperal period. There were two varieties, the internal or concealed and the external. In the former the uterus was large, there was no leaking, but the cervix was blocked either by spasm or by a clot, &c. The causes were mental or emotional producing uterine inertia, the retention of pieces of placenta or membrane, and undue exertion. The treatment was to remove the cause by moulding the uterus, and in the concealed variety by passing the hand into the uterus, over-coming the spasm of the cervix and detaching and clearing out any foreign substance (placenta, &c.), the hot douche, and a hypodermic injection of ergotin. In external hæmorrhage he advised the hot douche and massaging the uterus through the abdomen; if this fails and the period at which the patient is seen is within three days of her confinement he advocated passing in the hand and removing anything abnormal present. Minor methods alone were often useful, but the source of the bleeding must be found in all cases, and the hand passed boldly into the uterine cavity. After the third day he would rapidly dilate the uterus with solid dilators, pass in the fingers, clear out the cavity of the womb, and plug with aseptic gauze.

Professor WALLACE (Liverpool) said the causes were generally a placental polypus or some displacement of the uterus in the pelvic cavity which prevented clots escaping. He warned them against hurried emptying of the uterus.

Dr. VAN SOMEREN (London) spoke of the value of compression of the aorta

Dr. RITCHIE (Edinburgh) said the secondary hæmorrhage might occur at the first period after delivery. He spoke of the presence of tumours as a cause, and in all cases where it was suspected he recommended prophylactic measures such as strychnine before labour, the not allowing the labour to be too prolonged or the patient exhausted, and care to allow time for expulsion of the placenta. In sub-involution of the uterus he found hot douches and ammonia, iron, and alum useful.

Professor MURDOCH CAMERON was in favour of bandaging after delivery and objected to the use of ergot. He had never seen a death from hæmorrhage after delivery. The main cause of secondary hæmorrhage was the presence of a solid piece of placenta.

Miss WILLIAMS, M.D. (Newcastle-on-Tyne), thought the only cause of secondary post-partum hæmorrhage was a placental polypus.

Dr. DONALD (Manchester) had seen no serious case of secondary hæmorrhage at his maternity hospital unless when a piece of placenta was left behind. He mentioned a rare cause of hæmorrhage he had noticed in good-class practice, where, about the ninth day, after a rigor, there was sometimes a sharp bleeding. The cause was that the patient was nursed too well and fed too freely, and as a result the bowels became confined and there was ptomaine poisoning. In such cases a calomel purge by clearing out the bowels often brought matters right.

Dr. J. D. WILLIAMS (Cardiff) spoke of the importance of saline injections in severe cases of puerperal hæmorrhage.

Dr. LYCETT (Wolverhampton) said that when hæmorrhages occurred often in a man's practice it was due to some mistake in his methods.

Dr. KERR (Glasgow) said the two causes of secondary puerperal bleeding were retained pieces of placenta and displacements of the uterus, and when a woman had recurrent attacks of pain and bleeding it was from one of these causes. It was said by some that a hurried delivery predisposed to bleeding, but this was rare in precipitate labour; and in Cæsarean section, where the child was rapidly delivered, bleeding did not occur. In using Crède's method a piece of membrane was liable to be retained.

Dr. ROUTH then replied.

Professor WALLACE (Liverpool) read a paper on the Evolution of the Treatment of Uterine Fibroid.

A Plea for the Early Recognition and Treatment of Puerperal Fever.

Professor BYERS (Belfast) read a paper on a Plea for the Early Recognition and Treatment of Puerperal Fever, of which the following is an abstract:—As is now admitted the best treatment of puerperal fever is its prevention by the adoption of modern aseptic and antiseptic precautions; but it sometimes happens that the most rigid technique may break down and, as a result, puerperal fever ensues. The

early symptoms of infection after delivery are elevation of temperature and quickness of pulse, but this question of temperature and pulse raises two other points: 1. What is the effect of the lying-in period on these phenomena? 2. May the temperature be elevated and the pulse be quickened from conditions other than puerperal infection? He believed that with complete aseptic and antiseptic precautions the pulse and temperature in the lying-in period differ little from what they would be in the non-puerperal condition. He related a series of cases where during the puerperium the temperature was raised and the pulse quickened from intercurrent conditions of a non-septic nature, and he gave their differential diagnosis from cases in which there was true puerperal infection. Excluding such conditions, which are not common, he ascribed fever and quick pulse in the first few days after delivery to infection, and he urged the adoption of local treatment at once when such symptoms appear. The two kinds of early infection were discussed — sapræmia and septicæmia. Before commencing treatment a thorough examination of the patient must be made in the following order: the pelvic floor, the vagina, and the uterus. The line of procedure to be adopted in the management of abnormal states of the perineum and vagina was given, while in the case of infection from the uterus the three methods of (1) simple irrigation, (2) continuous irrigation, and (3) curettage, were discussed and indications given as to which plan should be employed in any case. The question of sero-therapy by the injection of—(*a*) anti-streptococcic serum, or (*b*) large quantities of artificial serum (sterilised water with from 7 to 10 per cent. of chloride of sodium at a temperature of 104° F.) was considered, and while he strongly advocated local treatment in puerperal infection he believe these new methods might be of great value. He also urged the importance of keeping up the patient's strength by concentrated nutritious food in a liquid form, quinine, digitalis, strychnine, and alcohol. In conclusion, although he had no experience of abdominal hysterectomy in puerperal infection, he thought surgical interference was of the greatest importance in those cases where there was any localised mischief within the abdomen or pelvis.

Dr. BERRY HART (Edinburgh) read an interesting and original paper, illustrated by diagrams and accompanied with specimens, on the Symptoms and Nature of the so-called Fleshy Mole.

Dr. WILLIAMS (Cardiff) read a paper on the Value of Anti-streptococcic Serum in the Treatment of Puerperal Septicæmia.

Dr. PURSLOW (Birmingham) read a paper on Perforation of the After-coming Head, and Dr. J. INGLIS PARSONS (London) read a paper on a Case of Malignant Adenoma of the Uterus. In the discussion which followed the reading of these various communications the following members took part: The PRESIDENT (Dr. CROOM), Dr. DONALD, Dr. KERR, Professor CAMERON, Dr. J. J. MACAN, and Dr. FOTHERGILL.

PUBLIC MEDICINE.

WEDNESDAY, JULY 29TH.

The Profession and the Public Health Service.

A paper was read on this subject by Dr. T. G. NASMYTH, medical officer of health of Fife and Clackmannanshire, who said:—The subject lends itself for consideration in various ways—namely, the relationship of medical officers of health to each other and to other public health officials, the relationship of the profession generally and public health officials, and the relationship of the State to public health officers. The very wideness of our text demands specialisation of treatment, and I intend as concisely as possible to consider the Influence of Medical Opinion, Teaching, and Research in the Promotion of Public Health. It is necessary to treat the subject retrospectively as well as prospectively, but I do not intend to go back further than the days of Jenner, and I shall restrict myself to the connexion between British medicine and public health, although by so doing we lose some of the best argument and proof that public health progress owes everything to medical research and discovery. With this restriction we leave out further reference to Koch, Pettenkofer, Brouardel, Virchow, Fodor, Schwann, and a numerous host of others. Jenner certainly forms a monumental starting-point in the sanitary history of a hundred years. It is not necessary to enlarge on the magnitude of Jenner's discovery of vaccination. He anticipated by his observations in the best of all laboratories—that of nature—the line of present investigation in every laboratory devoted to medical research for the prevention and treatment of disease. Reference must be made to one or two others a little before Jenner, as they are recognised as the fathers of modern preventive medicine. I will first mention Richard Mead, whose work on "Pestilential Contagion" passed through seven editions in one year; John Pringle, whose name is associated with the first treatise on the health of the army, and Lind with that of the navy. Baker pursued another branch of inquiry in his investigation into colic amongst cider-drinkers in Devonshire. Thackrah opened up a new field of inquiry by investigating the connexion between diseases and occupations. Niel Arnot applied his scientific knowledge to problems in lighting, heating, and the consumption of smoke. Southwood Smith dealt with the philosophy of health, which was of immense service in popularising preventive medicine; he was the Sir Benjamin Richardson of his day. The establishment of an Army Medical School in which were taught hygiene and sanitary science was an important influence, and it was evident the State was becoming alive to the doctrine of prevention of disease amongst soldiers and sailors. Professor Parkes, the first holder of the chair, by his high professional and scientific abilities and by his publication of the first text-book on Hygiene, gave an impetus to sanitary progress which can hardly be over-valued. We should never forget the time when Parkes' book was the sanitarian's Bible. The systematic teaching of hygiene to the army and naval medical officer had good effects as indicated by the valuable reports and books of army and navy surgeons, such as De Chaumont, Graham Balfour, Aitken, Mouat, Bryden, Cunningham, Macdonald, and many others. The appointment of Dr. Greenhow as Lecturer on Public Health at St. Thomas's Hospital in 1856 was a most important momentum very much to the credit of that medical school. Parenthetically it may be remarked that the paucity of chairs of hygiene in our universities at the present time is not to their credit. Surely the teaching of hygiene is of more importance to the medical student than that of botany and natural history. In matters purely medical it goes without saying that medical men must be the exponents, but in medicine specially directed to sanitation and when we are dealing with sanitary progress we cannot omit reference to the influence of Sir William Jenner, Murchison, Snow, Budd, Alison, Stewart, and Christie in connexion with fevers, cholera, and diarrhœa. Each of these distinguished men is entitled to separate recognition, but claims of time prevent this. There is only another name I would refer to at this stage, and it is that of Mr. Henry Rumsey, to whom is attributed the appointment of the Sanitary Commission of 1869-71. Following on this many new Sanitary Acts were passed and the Local Government Board was created with its medical officer and medical inspectors, and the work formerly carried out by the Medical Department of the Privy Council was now transferred to this Board. The magnitude and importance of the work done by Sir John Simon, Sir George Buchanan, and the many distinguished past and present medical inspectors of the Board are known to everyone connected with, or interested in, preventive medicine. It is impossible to enter into details regarding the investigations and discoveries of these men, as they are encyclopædic. If we deal with subjects and authors and turn to air, we find the names of Klein and Cash with regard to disinfection; if to water, we find associated with that subject Dupré, Cory, Buchanan, and Radcliffe; if to soils, Buchanan; if to food, Smith, Thudicum, Ballard, and Klein; if to disinfectants, Klein, Cash, Baxter, and Burdon Sanderson; if to nuisance effluvia, Buchanan, Ballard, and Power; and if to offensive trades, we find the names of Ballard, Seaton, and Russell of Glasgow. Of all the important work done under the Local Government Board there is none of more importance than the researches into physiological chemistry by Thudicum; the bacterioscopic and pathological investigations of Klein; the investigations by Creighton in connexion with the etiology of cancer; by Greenfield on wool-sorters' disease; and the investigations of Burdon Sanderson regarding tuberculosis, cholera, contagia, &c. These selections are all made to show not only the kind of work that has been done, but the highly scientific medical staff at the disposal of the Local Government Board. Twenty years ago bacteriology was not taught systematically at all—we heard little or nothing about it in the few lectures devoted to hygiene.

In the class of clinical surgery we were taught by Sir Joseph Lister, who was then a prophet crying in the wilderness, something about "germs" and a great deal about their pernicious effects on wounds. In Parkes' classic manual of Public Health a few pages were devoted to the subject, while at the present day the subject of bacteriology in relation to hygiene forms a magnificent monograph of 240 pp. in Stevenson and Murphy's most valuable treatise. Sir Joseph Lister was not the mere pioneer of the use of antiseptics in the treatment of wounds. He was the first to thoroughly realise and put in practice the value of cleanliness—cleanliness of the patient and of his wounds, of his clothing, of the hands of the attendants and the surgeon, of the instruments, and of the ward and its environment. Without these of what avail would be the mere laving of a wound with an antiseptic substance? Sir Joseph Lister taught all this, and by so doing in my mind entitles us to claim him as one of the foremost sanitarians of the day. If proof were asked we appeal to those whose lives and limbs have been saved, to hospitals which have been freed from outbreaks of pyæmia, erysipelas, hospital gangrene, and puerperal fever. Antiseptic surgery might well be called preventive surgery. In the field of bacterial chemistry the late Dr. Wooldridge did valuable work, a mere forecast of what might have been if he had not been cut off, alas, too soon. Dr. Dupré's investigations into micro-organisms and the aeration of waters, and Dr. Allan Macfadyen's researches on the chemical changes caused by bacteria in albumins and peptones, are not only valuable contributions but indicate the lines of research at present being followed in hygiene by combined chemical and biological methods. We may expect a great deal of information from this combination, but the methods are so difficult, the expense so great, and the opportunities so few that progress is slow. There is undoubtedly an important field for hygienic research in the examination of air, water, and food with reference to the chemical changes produced by saprophytic and parasitic micro-organisms. To what chemical changes are due the violent symptoms produced by eating mackerel, oysters when not too fresh, and beef-steak pie when cooked without provision being made for the escape of the gases generated, or from drinking water fouled by animal or vegetable matter free from recognised pathogenic micro-organisms? These are all hygienic subjects for medical research.

The Continued Increase of Cancer, with Remarks as to its Causation.

Mr. ROGER WILLIAMS (Preston) introduced this subject and said that whereas in 1840 cancer caused 2786 deaths, or 1 in 5646 of the total population, and 1 in 129 of the total mortality, or 177 per million living, in 1894 it caused 21,422 deaths, or 1 in 1403 of population, 1 in 23 of the total mortality, and 713 per million living. Thus the cancer mortality was now more than four times greater than half a century ago. No other disease could show anything like such an immense increase. The following table, which he exhibited, showed the full extent of the mischief from year to year and its steadily progressive nature:—

Year.	Total population.	Total deaths.	Cancer deaths.	Cancer death-rate per million living.	Proportion to population.	Proportion to total deaths.
1840	15,730,813	359,687	2,786	177	1 to 5646	1 to 129
1850	17,773,324	368,996	4,966	279	1 ,, 3579	1 ,, 74
1860	19,902,713	422,721	6,827	343	1 ,, 2915	1 ,, 62
1870	22,501,316	515,329	9,530	424	1 ,, 2361	1 ,, 54
1880	25,714,288	528,624	13,210	502	1 ,, 1946	1 ,, 40
1890	28,762,287	562,248	19,433	676	1 ,, 1480	1 ,, 29
1891	29,081,047	587,925	20,117	692	1 ,, 1445	1 ,, 29
1892	29,405,054	559,684	20,353	690	1 ,, 1445	1 ,, 27
1893	29,731,100	569,958	21,135	711	1 ,, 1407	1 ,, 27
1894	30,060,763	498,827	21,422	713	1 ,, 1403	1 ,, 23

This state of affairs was of grave import. Cancer seemed to be increasing in all civilised countries. If unchecked cancer would ere long become one of the commonest diseases of modern communities. The subject required investigation and was a matter of national concern. The remarkable decline in the death-rate from phthisis had coincided with this great increase in the cancer mortality, for while the latter had more than quadrupled during the last fifty years the former had diminished by more than one-half. It seemed to him probable, from a study of the family history of cancer patients, that a large proportion of those saved from tubercle eventually perished from cancer and insanity, and he thought the increase in the latter disease had largely been brought about in this way. As to the determining causes of these remarkable occurrences, in the present imperfect state of our knowledge categorical explanations could hardly be expected, nevertheless he need not be deterred on that account from formulating such explanatory conceptions as after careful study of the subject seemed likely to be useful. It was generally agreed that organisms were more prone to deviate from the normal routine of growth and development after sudden changes in environment than by any other group of circumstances. The natural history of cancer showed that it was a disease belonging to this category. The transition from the agricultural to the industrial mode of life undoubtedly constituted one of the most profound and far-reaching changes of the kind. He believed that the increase of cancer had sprung out of impulses thus determined. Industrialism prejudicially influenced health by predisposing to certain degenerative changes, which rendered those affected less capable of resisting morbid excitations. It would probably be found that these changes ultimately depended upon defective cellular metabolism, and this he believed to be the common root whence sprang such diverse manifestations as tubercle, cancer, and insanity. In prosperous times the evil effects of industrial conditions were to a certain extent mitigated by sanitation, good feeding, &c. Thus many who had acquired a morbid predisposition nevertheless escaped destruction. It was from these persons and their descendants that the ranks of the great cancer army were constantly being recruited. Hence there was some truth in the curious paradox that a high cancer mortality was an indication of good sanitation. Probably no single factor was more potent in determining the outbreak of cancer in the predisposed than high feeding. The gluttonous consumption of meat was likely to be especially harmful in this respect. Statistics showed that the consumption of meat had now reached the amazing total of 126 lb. per head per year. This was more than double the average for the rest of Europe, and more than double the amount consumed half a century ago. When excessive quantities of highly stimulating forms of nutriment were ingested by persons whose cellular metabolism was defective he thought it likely that there might thus be excited such excessive and disorderly cellular proliferation as would end in cancer.

Mr. PAGET (Salford) believed cancer to be, as a rule, intimately connected with heredity. At the same time sporadic cases offered remarkable exceptions to this rule. He had noticed worry and shock to have preceded attacks of cancer and imagined that these factors might be concerned in urban incidence.

Dr. GROVES (Carisbrooke) asked if Mr. Williams had any statistics. In his own district (Isle of Wight) the cancer mortality was much above the average. It was an island which until lately had little communication with the mainland, there were many consanguineous marriages, and numerous phthisical families were attracted to the place by the favourable climate. On looking through his statistics he concluded that the excessive cancer mortality must be in some way connected with degeneration. The peasants fed largely on pork. He did not think climate had anything to do with the disease.

Dr. DRYSDALE (London) quoted Professor Verneuil to show that cancer had increased in France. One fallacy was that the average age at death was now higher, so that more persons reached the cancer age. Perhaps the more general dwelling in cities might have something to do with the result. If cancer were contagious in the individual, as seemed fairly well proved, it would probably be contagious from one person to another. No proof had been advanced that meat-feeding was a cause of cancer. He suggested that Mr. Williams should investigate the comparative incidence of cancer upon the rich and upon the poor. He himself had found the incidence of tuberculous diseases to be four times as much upon the poorer population compared with the wealthy. He fancied the increase to be in some way connected with the size of cities.

Dr. THRESH (Chelmsford) agreed that the subject could

be best studied by medical officers of health. In his own county, largely made up of undulating marshes, he had made a special study of the subject. He had undertaken this work in order to test Dr. Longstaffe's views that cancer is more fatal in valleys and low-lying districts than in more elevated places. He found cancer quite as prevalent in the one as in the other. Moreover, in his own county the actual increase was slight. The peasants lived in a primitive manner and ate little animal food; on the other hand, the population of the southern part of the county continuous with the east of London doubtless ate as large a proportion of meat as the labourers in the towns.

Mr. WILLIAMS, in reply to Dr. Drysdale, said that although it was true that the average age had been advanced, yet the saving of life had been mainly in the earlier years of life. After making various allowances it had been found that one-fortieth only of the increase of cancer was ascribable to that cause.

THURSDAY, JULY 30TH.

Discussion on the Seizure of Diseased Meat and Butchers' Claims for Compensation.

Dr. R. SYDNEY MARSDEN (Birkenhead), in opening the Discussion on the Seizure of Diseased Meat and Butchers' Claims for Compensation, said that the seizure of diseased meat without compensating the butchers had long formed a "bone of contention" between them and sanitary authorities, whilst the recent deputation from the Federation of Meat Traders which waited upon the Government had brought the subject prominently before the public. The question was surrounded with difficulties, and at first sight it would seem that a gross injustice was being done to the butchers. It was impossible to discuss all the points which arose in connexion with the different diseases for which meat was seized, but as the greater part of the agitation originated out of the tuberculous meat he would confine himself to a consideration of the subject in relation to this disease. The case for the butchers as stated to Mr. Chaplin and Mr. Long was that they went to open markets and purchased animals in good faith believing them to be sound and paid a fair market price. They had no means of testing whether they were likely to be diseased or not, but on slaughter if found to be tuberculous they were seized by the inspector or medical officer of health. They contended that they were entitled to compensation for carcasses confiscated in the interests of the public health. They did not, however, ask for compensation for any beast bought at under £8 or over £30. The matter was, however, not quite so simple as it would appear, and other considerations had to be taken into account as well as the butcher's. The public had a right to be supplied with a genuine article for their money, and the butcher was not entitled to say: "I cannot tell before I buy a beast whether it is diseased or not, therefore I ought to be allowed to sell it or else the public ought to pay me for it as if I had sold it." The greengrocer, the fishmonger, and milk-dealer had all as good a right to the claim as he. It was, in fact, one of those risks of trade loss occurring to the individual in every business. These seizures for tuberculosis were by no means so common as the butchers would have the public believe. Birkenhead had the reputation in the meat trade of being the most severely inspected town in the country. It killed some 240,000 beasts per annum, and the average number of carcasses seized for tuberculosis during the past five years had been only ten per annum. A large proportion, however, of the animals thus killed were landed from Canada and the United States. In that particular portion of Cheshire he believed that 20 per cent. of the cattle were affected with tuberculosis, so that any butcher buying from the farmers ran a risk of losing 20 per cent. of his purchases. As to the relationship of the farmer to the meat question, the primary trouble began with him, and in his opinion he ought not to be allowed to rear animals in such a manner as to encourage the perpetuation of the disease—i.e., by keeping his animals in small, ill-ventilated, and often infected pens, and in many cases neglecting the cleanliness of the animals, their lairage, and by excessive milking. He had then no right to go into the market and get the best price for his cattle, regardless of whether they were affected or not, without sharing any part of the subsequent loss which fell upon the butcher. With a view of getting rid of the disease the cost of its eradication should be equally divided amongst the parties concerned.

Sir CHARLES CAMERON (Dublin) said that vendors should be encouraged not to conceal cases of tuberculosis. When examined some years ago before the Commission on the Diseases of Animals used as Food he strongly recommended the inclusion of bovine tuberculosis amongst the diseases scheduled in the Contagious Diseases (Animals) Act. Personally he would prefer to eat the flesh of an animal affected with pleuro-pneumonia rather than that of an animal affected with tuberculosis. In Dublin tuberculous animals were constantly detected and destroyed, but there were no seizures of carcasses affected with pleuro-pneumonia as the owners of these beasts were compensated and therefore had no motive for concealing them from the sanitary authority. He would suggest, in addition to the proposals of Dr. Marsden, an alternative suggestion—namely, to include tuberculosis with the other diseases scheduled by the Act.

Dr. MAXWELL ROSS (Dumfries) did not agree with the principle of compensation in all cases, as the farmers would then send in their tuberculous animals practically to be paid for by the sanitary authority.

Dr. WHEATLEY (Blackburn) said that compensation should be given only in return for some distinct public service. Farmers who had taken no precaution to prevent the spread of tuberculosis were not entitled to consideration. Compensation, in his opinion, would be likely to encourage the spread of tuberculosis, because it would make it more profitable for the farmers to keep tuberculous animals.

Mr. GARSTANG (Knutsford) said that from personal experience he could say that the average cowshed was extremely unwholesome. It would be better, in his opinion, to get legislation to improve the cowsheds rather than to commence with compensation. In Cheshire 10 to 20 per cent. of the cattle were said to be tuberculous, and the compensation for that number of cattle would be a serious matter. He did not advocate compensation.

The following resolution was proposed by Dr. MARSDEN, seconded by Dr. COOPER-PATTIN (Norwich), and carried by a small majority: "That in all cases where a carcass of a beast bought for over £8 and under £30 is seized for tuberculosis the cost shall be equally divided in the following proportions, viz.: one-third by the seller or breeder of the animal, one-third by the butcher or other person to whom the animal belonged when it was seized, and one-third by the local authority. Or, as an alternative, that this disease be scheduled in the Contagious Diseases (Animals) Act with pleuro pneumonia."

Milk-supplies in Urban Districts.

Mr. NEECH (Atherton) then read a paper on Milk-supplies in Urban Districts. He remarked that the purity and wholesomeness of milk depended on three things—(1) freedom from adulteration, (2) health of the cow, and (3) freedom from contamination with noxious microbes. Adulteration was not so much practised as formerly. During the past four years he had not been able to secure a single sample of adulterated milk. In Atherton 600 cubic feet of air-space were required per cow, and in the county of Lancaster 420 to 800 cubic feet. He considered that at least 1000 cubic feet should be allowed. Cowsheds as a rule were badly constructed, so that their ventilation and lighting were defective; the floors were often imperfect and not laid with a sufficient fall. Cleanliness, lime-washing, and a plentiful supply of fresh water were absolute necessities for a wholesome dairy. Although milk was such an important article of food and so potent a vehicle of disease local authorities did not seem to realise their responsibilities therewith. By-laws prescribing and regulating the lighting, air-space, ventilation, cleansing, drainage, and water-supply of dairies and cowsheds should be made in every district, and an adequate number of inspectors appointed to see that they were enforced. Every cow should be examined by a veterinary surgeon and marked before it be admitted into a dairy and its milk sold. The inspector could then see at a glance what cows had been subjected to such examination, and it would tend to exclude tuberculous cattle, the milk of which was capable of giving rise to the disease in the human subject. A cowkeeper should be compelled to notify the outbreak or existence of any disease among his cows. There must be a more rigid enforcement of sanitary laws if our milk-supply was to be improved.

Sir CHARLES CAMERON referred, as confirming the last speaker's opinion, to an outbreak of enteric fever which he investigated twenty years ago and which THE LANCET said would always be a classic case. Two patients affected with enteric fever were housed in a small dwelling without a

watercloset and their dejecta were thrown on a dung-heap in a yard where sixteen cows were kept. The dejecta were carried down a passage five feet wide between two rows of byres. It was clear that the emanations from the dung-heap were absorbed by the milk. Sixty-five persons, chiefly of the upper and middle classes, who drank the milk were attacked with typhoid fever and six of them died.

Dr. NIVEN then introduced a discussion upon

The Prevention of Phthisis.

He said:—Tuberculosis is an infectious disease. This was proved in 1865 by Villemin, followed by Chauveau, Cohn, and Salomonsen By his discovery of the tubercle bacillus, announced in 1882, Koch quite altered the position of our knowledge in regard to the disease. It was possible to grow the bacillus outside the body and transfer it from soil to soil in apparently undiminished vigour. The identity of the disease in different mammals was established. The manner in which the bacillus attacks and spreads in the body was demonstrated, as well as the manner and capabilities of the body in resisting the attack. The amount of infective matter in tuberculous tissues and discharges could be estimated by the eye and precision given to all inquiries into infection. In the identification of the tubercle bacillus as the cause of tuberculosis the infectiousness of the disease was demonstrated with a degree of rigour which left no room for doubt. Where no tubercle bacillus has come there no tuberculosis can arise. By investigating the properties of this micro-organism we may be able to ascertain how it is to be prevented from getting into the body. It occurs very abundantly in tuberculous sputum, but can hardly be a source of infection till it has become dry and has been dispersed as dust. The same is true of other tuberculous discharges. In all cases of tuberculosis, therefore, where the infective element is escaping from the body, but especially in phthisis, the discharge must be prevented from becoming dry, and every precaution should be taken to destroy the living matter in it. The dung of tuberculous cattle and the ropy secretion from their nostrils are also highly dangerous. Cats often appear to be tuberculous and ought then to be destroyed. As regards the reception of infection, however, there is much to be observed which points to other ways of combating the disease. Pathological observation and clinical inquiry prove that the tubercle bacillus has often a most strenuous struggle to establish itself in the body at all, and the results of post-mortem examinations, as shown by Dr. Thomas Harris and others, indicate that the tissues are often successful in suppressing the disease after it has started. The invasion of the disease is, however, greatly facilitated by a variety of predisposing causes, such as damp, ill-ventilated, crowded, and dark homes; unhealthy occupations; excess, distress, and over-exertion; previous attacks of disease, such as measles, whooping-cough, and pneumonia; and traumatism. In the minds of many the predisposing causes are more important than the element of infection, and they say justly that a great reduction in the incidence of tuberculosis would be effected by getting rid of unhealthy and congested areas, by laying out parks in the midst of cities, and by adopting improved sanitary measures; but, excellent as these things are, there would still remain conditions which, under unfavourable circumstances, would provide a soil for phthisis. Between one-third and one-half of the deaths among the adult population are due to phthisis. The measures by which we may hope to check the spread of infection are the following:—1. The circulation of information as to preventive methods. In 1894 and 1896 handbills containing such information have been sent to every house in Manchester, and the same policy was previously pursued in Oldham. The memorandum of the North-Western Branch of the Association of Medical Officers of Health is suitable for distribution to medical men, and the practitioners in Salford and Manchester have each been furnished with a copy. 2. Tuberculosis attended with discharge should be made a notifiable disease and notification should be compulsory. It is of the utmost importance, both for the sake of the tuberculous individual and for the sake of those living with him, that any insanitary conditions of his habitation should be removed. Measures of disinfection are urgently required in those cases and the researches of Professor Delépine on the action of chlorinated lime have supplied us with an easy and efficient method of disinfecting rooms With respect to inherited tuberculosis, if the views as to the frequency of this condition held by Baumgarten and brought before the Royal Commission by Dr. Klein and Mr. Victor Horsley are correct, our preventive efforts will be to some extent unavailing, but I have been unable to find any facts in support of those views either from post-mortem examinations or clinical observation. The providing of hospitals by sanitary authorities for the reception of phthisical patients is an ideal to be looked forward to, but not likely to be realised on an adequate scale for some time to come; for the attainment of the object chiefly aimed at it would not be necessary to keep patients an indefinite time in such hospitals. Milch cows should be housed in well-ventilated and well-lighted cowsheds cleansed twice a day at suitable times. They should be systematically inspected, and such a systematic inspection has now been begun in Manchester. About three months ago two assistant veterinary inspectors were appointed, part of whose duties it is to attend to this, and they are authorised by the corporation to use the tuberculin test when they deem fit and can get it applied. As regards tuberculous meat I am of opinion that all carcases should be condemned in which any part of the internal organs is extensively diseased or in which the presence of tuberculous glands is made out in the meat substance.

Dr. GRIMSHAW (Dublin) believed that tuberculous meat, unless well cooked, was a great source of infection. Improperly cooked meat was most likely to be used by the poor, the class specially prone to phthisis. He regarded compulsory notification of tuberculous disease as absolutely impracticable, however much it might be desirable. Ten per cent. of the total deaths in Ireland were known to be due to phthisis, one form only of tuberculous disease. When they began to notify disease without practical results they ran the risk of doing injury to the whole system of notification. If it could be done it should be done, but he doubted the possibility and feared the attempt would end in disappointment. If phthisical people could be isolated like lepers the disease could possibly be stamped out. It would be impossible, however, to shut up so large a section of the community. One thing practicable would be to establish hospitals for the treatment of early stages and, at the same time, to isolate the very bad cases. It was difficult to know how to deal with the residue. To isolate the breadwinners would be to starve their families and afford a foothold for the disease in the latter. It was practicable to supervise the meat-supplies. To his mind the only way was to attend to the cowsheds and establish public abattoirs.

Dr. DRYSDALE (London) spoke of the enormous death-rate from phthisis in European countries. In Vienna one-third of all deaths were ascribed to this cause, in Paris one-fifth, and in London one-twelfth. In France about 160,000 annually died of the disease; in Germany, 150,000; and in the United Kingdom only 65,000, or much less in proportion. In London about 8000 deaths a year occurred from this terrible disease; but whilst the figure for a rich quarter of London—Hampstead—was 930 per million, it was last year 3300 per million in the crowded districts of St. Giles, St. Savjour, and St. Olave in London. The facts pointed to tuberculosis being mainly caused by contagion from diseased human beings, and hence it was far more important to try to prevent contamination by crowding or by milk and meat supplies than to endeavour to prevent the marriage of young people. He suspected that tuberculosis in cows was usually caused, as small-pox used to be, by infection from tuberculous human beings.

Dr. COOPER-PATTIN (Norwich) said that when the medical officer of health received a certificate of phthisis he could always offer to disinfect. He found that in a large number of cases such a proposal was accepted. This step impressed on people the fact that they were dealing with an infectious disease. He advocated the rigorous inspection of all cattle and milk and the attention to healthy surroundings in dwellings. Special hospitals also enforced the fact of the communicability of phthisis. He thought, however, that the one great safeguard, worth all the rest put together, was to instruct the rising generation as to the risks of tuberculous infection.

Dr. SCURFIELD (Sunderland) thought notification important because the early stages of tuberculosis were not infectious. He would urge authorities of public institutions to use their power of controlling milk supplies so as to advertise the fact of infection to the public. He advocated the use of tuberculin in cattle as a curative measure.

Dr. MAXWELL ROSS (Dumfries) said that the medical officer of health had power to order disinfection of rooms

occupied by phthisical patients. This applied to England, Scotland, and Ireland, but not to London, unless the disease were added by special resolution of the local authorities to the list scheduled for notification. In the new Bill now being brought forward for Scotland the medical officers of health of that country would no longer have the power to order the disinfection of such houses unless the local authorities specially resolved that the disease be added to the list of infectious diseases to which the Bill declared preventive measures should be applied. This was a retrograde step against which he wished to protest, and he hoped the Association would give its aid in cutting these dangerous sections out of the Bill.

Dr. WHEATLEY (Blackburn) said that, although many of the speakers were against notification, yet they wished to take advantage of every possible means of urging disinfection. If desirable after death it was doubly so during the life of the patient. Notification was certainly not impracticable because of the large number of cases. In his own district he found 200 cases per annum. Notification would lead to the earlier diagnosis of phthisis. Preventive measures dwelt too much on food supplies to the exclusion of dust, which was just as potent a factor in causation.

Dr. NIVEN moved, and Dr. SCURFIELD seconded a resolution, which was carried *nem. con.*, which was to the effect "that cases of tuberculous disease attended with discharge be included among the diseases to be notified."

Death Certification and Registration.

Mr. NELSON HARDY (London) read a paper on Death Certification and Registration. He quoted the report of the Select Committee of the House of Commons which recorded their conviction "that vastly more deaths occur annually from foul play and criminal neglect than the law recognises." He showed that the subject was dealt with much more systematically in France, and then discussed various clauses of the above report *seriatim*. The committee said that "a great number of cases of crime are concealed under statements that children are stillborn. In the case of illegitimate children the fact that a still-birth is not to be registered, coupled with the desire for secrecy, is an inducement to a certain class of midwives to ensure that the child be stillborn." Several sessions had gone by since these grave statements were presented to Parliament, yet nothing had been done by the Legislature.

A resolution embodying Mr. Hardy's views was then adopted.

Night Shelters and What we Pay for Them.

Dr. WALDO (London) read a paper written jointly with Dr. WALSH (London) on the above subject. He said that it was proposed to deal only with night shelters belonging to the Salvation Army, illustrated by the Blackfriars Shelter in the metropolitan parish of St. George-the-Martyr and the Union of St. Saviour. The union to which a pauper is chargeable is known as his place of settlement. This may be an original or birth settlement, or may be acquired by three years' unbroken residence within the union. One night's residence, however, in a parish gives a pauper the right to throw himself upon the rates. Suppose a vagrant to have wandered up to London. He hears that for a penny he can sleep for a night in the Blackfriars Shelter. He sleeps there for one night, and not being able to find the requisite penny another night he throws himself on the Union of St. Saviour. Unless the guardians discover his original place of settlement they are thenceforth saddled with his maintenance. As an able-bodied man he is kept in the workhouse; if ill he has to be tended in the infirmary; if insane he is put in an asylum; if he die he must be buried; all at the cost of the ratepayers. These responsibilities have again and again been thrust upon the Poor-law authorities of St. Saviour as the result of one or more nights spent in the Blackfriars Shelter. Mr. Glover, a relieving officer of the district, has furnished an able and painstaking report, dealing with the admissions to Poor-law institutions from the shelter during the year 1895; 691 paupers came straight from the shelter and of these 82 were "casuals." For the twelve months in question the cost of such paupers, who had not a settlement in the union was £622 17*s.* 7*d.* These figures were computed at the rate of 9*d.* per head per day in the workhouse, 1*s.* in a Poor-law infirmary, and 10*s.* per week in an asylum. In addition the cost of paupers from the shelter who had either a birth or an acquired settlement in the parish was £214 19*s.* 1*d.* Adding these two sums together, the direct cost to the Union for paupers who came from the shelter in 1895 amounting to £837 16*s.* 8*d.* This sum does not include the cost of the 82 casuals. Suppose there were no shelter in the union, then the tramps coming up from the country would be distributed pretty equally throughout the Metropolitan casual wards. As it was the richer districts escaped their fair share of the burden. The shelter appeared to be carried on by money obtained from three sources:—(1) Charitable donations; (2) the pence of the poor; (3) the contributions of the ratepayers, both local and metropolitan (the latter through the Metropolitan Poor-law Fund). The motives of the Salvation Army were not for a moment called in question, but their scheme certainly did not stand the ordeal of an economic analysis. The cost of a shelter of this kind was considerable to ratepayers, who, on that ground alone, should have proper sanitary control of the undertaking. The history of small-pox in Southwark during the past four years showed that the shelter has played an active part in spreading the disease not only in the neighbourhood but also throughout London. This was a further serious item of indirect cost to Londoners. On the whole, the direct and indirect cost of this philanthropy to the ratepayers of St. Saviour's might be estimated roughly at several thousands of pounds per annum. The main conclusion was that the Salvation Army shelters attracted a poor, shiftless class of the community to the most poverty-stricken districts of London, which were then saddled with the cost of this ill-considered philanthropy. So far as can be judged the best way out of the difficulty would be to bring all night refuges of the kind under the Common Lodging Houses Act. In this way not only the economic, but the sanitary interests of ratepayers would be to some extent safeguarded.

Dr. WALSH said that the sanitary evils of these shelters had been demonstrated again and again. The fact that they were started after the passing of the Common Lodging Houses Act did not justify their exclusion from the purview of that law. It was time that local authorities should take steps to protect the interests of the ratepayers. Now that it was shown that the shelters cost a district large sums of money, some action might be expected on the part of vestries and guardians. Dr. Walsh proposed and Dr. Drysdale seconded a resolution, which was carried *nem. con.* to the effect that: "In the opinion of this meeting it is desirable that all public night shelters should be forthwith included within the purview of the Common Lodging Houses Act."

PSYCHOLOGY.

WEDNESDAY, JULY 29TH.

The Use of Sedatives and Hypnotics.

Dr. L. R. OSWALD (Gartloch Asylum, Glasgow) opened a discussion on the Use of Sedatives and Hypnotics, referring at the outset to the very diverse views held by alienists regarding the use of hypnotics in mental diseases, and then proceeding to review the means of inducing sleep. He regretted that in the construction of asylums so little attention was paid to the means of inducing natural sleep by rooms specially arranged and fitted up. The principal symptom calling for the use of a hypnotic was failure of strength. So long as a patient's strength was fairly well maintained and nourishment was freely taken the urgency was not great even though little sleep was being got, but the first indication of failure of strength made the use of some hypnotic imperative, and preference should be given to the drug that produced a sleep most nearly in its effects resembling natural sleep. Paraldehyde is safe and speedy and tends to bring back the broken habit of sleep. In the cases for which it is unsuited, such as the mania of epilepsy and the excitement of chronic and recurrent mania, he preferred chloral and bromide of potassium, or the latter combined with cannabis indica or hyoscyamus, the two forming a most useful and safe sedative and calmative. He deplored the neglect of such proved sedatives as conium and digitalis, and expressed the opinion that opium was of greater value than was generally believed. Sulphonal is undoubtedly a powerful hypnotic, but that effect is accompanied by, or dependent on, a marked paralysing action, and perhaps also a destruction of the red blood corpuscles. He was reluctant to give it in acute cases, believing that it produced a mild dementia, but in chronic noisy, destructive cases its value as a sedative was undoubted. Morphia is less useful than opium and hyoscine

required very careful watching. The alkaloidal group of hypnotics is much more useful in private than in hospital practice; a decrease in their use would lead to the development of other means of combating that most troublesome symptom, insomnia.

THURSDAY, JULY 30TH.

Pathology of Hæmatoma Auris.

Dr. W. F. ROBERTSON gave a microscopic demonstration upon the Pathology of Hæmatoma Auris. The sections illustrated the various stages of the degenerative lesions in the ear cartilages, which, as had already been contended by Fischer, Pareidt, and others, prepared the way for the occurrence of the hæmorrhage. Typically this took place from new vessels in the wall of an intra-cartilaginous cyst. It was shown that these vessels were specially prone to a degenerative change, which must render them liable to rupture from slight violence or even spontaneously. The blood was slowly effused into the perichondrium. Sections of recent hæmatomas were also shown illustrating the way in which the blood was effused and the subsequent changes that occurred in it. A full account of the investigation, together with a review of the previous work on the subject, was published in the Edinburgh Hospital Reports, vol. iv.

Dr. T. C. CLOUSTON remarked that with the conditions shown by Dr. Robertson hæmatoma might be caused by the pressure of the ear on the pillow in bed. He considered that cases of hæmatoma auris were not so frequent as in past years.

The PRESIDENT and Dr. RAYNER also took part in the discussion.

The General Paralytic, his Practical Management and Treatment in Asylums.

The PRESIDENT, in opening the discussion on the General Paralytic, his Practical Management and Treatment in Asylums, said he thought it would facilitate discussion if he presented the following points for consideration: (1) how to treat the general paralytic during initial excitement so as to prevent accidents and osseous fractures; (2) during the quiet stage how is the patient best kept of cleanly habits; (3) should he at this stage be specially dieted, so that he may not become too fat and unwieldy when he gets to the bed-ridden stage; (4) what are the best sedatives to be used during the course of his disease to keep him manageable; (5) seclusion, should it not be used whenever it is considered useful; and (6) the bed stage, how best to prevent bedsores.

Dr. M. D. MACLEOD considered that seclusion was absolutely necessary during the excited stage and that drugs were of little real value. To prevent bedsores the patient was to be treated as any case liable to them—i.e., to be kept clean and dry.

Dr. CLOUSTON said each medical man naturally spoke of his own personal experience which was modified by the cases he had to treat. He (Dr. Clouston) considered the best treatment during the stage of excitement was strict seclusion and large doses of sulphonal; by this treatment the patient passed through the first stage with less danger to himself and others. In the second stage the patient was not as a rule troublesome and did not require unusual treatment. In the third stage the condition of the patient was such that excoriations and bedsores would be developed in an hour or two and the most careful nursing will not prevent sores in all cases, and over-nursing may hasten death. He considered that in England there was a decided over-fear in asylums of bedsores. In the Edinburgh Royal Asylum during the last five years the number of cases of general paralysis had doubled.

Dr. W. J. MICKLE did not think it well to try to quickly reduce the excitement of the first stage with drugs; he gave iodide of sodium. He also considered there were cases in which bedsores could not be prevented.

Dr. A. R. TURNBULL had also noticed an increase in numbers and a change in type in the cases treated of late years. He thought it probable the reason was that quiet senile cases formerly treated at home were now sent to asylums.

Dr. O. WOODS remarked on the small number of cases of general paralysis treated in Ireland.

Dr. CLARKE believed strongly in treating patients in the first stage in the open air and inducing them to take exercise.

Dr. MACPHAIL, Dr. MCDOWALL, Dr. S. TUKE, and Dr. YELLOWLEES also took part in the discussion.

The Hospital Treatment of the Insane in Asylums.

Dr. J. MACPHERSON read a paper on the Hospital Treatment of the Insane in Asylums. He dealt with the movement in Scotland for the construction of special hospitals in connexion with public asylums, and gave an account of the development of the movement from the erection of separate hospitals in the Royal Asylum, Edinburgh, in 1877 down to the present time. The influence of the Morningside example and of the model plans of the General Board of Lunacy were fully taken into account. These model plans, drawn up in 1880, showed an asylum for 1000 patients divided into two sections; the smaller section, called the hospital, was for the accommodation of recent acute, infirm, and physically sick cases of insanity, and those requiring special supervision, with accommodation for one-third of the patients, and the larger section, with accommodation for the remaining two-thirds, for quiet, chronic, and industrious patients. Thirteen of the public asylums in Scotland had adopted the idea. Its advantages were: (1) the inclusion of the acute cases under one head and nursing staff with those suffering from bodily ailments was of advantage to the recent cases, as an acknowledgment of the common origin of the diseases, and the recent cases had the advantage of careful nursing; (2) clinical study was facilitated; (3) the removal to the hospital of recurrent cases simplified administration; (4) advantage to the chronic quiet cases of being separated from the acute cases; and (5) no invidious comparison between curable and incurable cases was made.

Dr. T. E. STANSFIELD read a paper on the same subject, in which he advocated the establishment of well equipped hospitals for the detention and treatment of recent cases for short periods from which the chronic cases and those requiring prolonged treatment would be sent to the asylums.

In the discussion of both papers which followed Dr. Yellowlees said the hospital spirit should pervade the whole asylum, and it should be looked upon as one hospital; he deprecated any fixed plan for all asylums, as an arrangement which was suitable in a large institution could not be carried out in a small one.

The PRESIDENT, Dr. RAYNER, Dr. MACPHAIL, Dr. G. M. ROBERTSON, Dr. URQUHART, Dr. CLARKE, Dr. TURNBULL, and others took part in the discussion.

Morbid Shyness.

Dr. H. CAMPBELL read a paper on Morbid Shyness. He observed that morbid shyness was an exaggeration of a condition normal at certain periods of life, and enumerated its manifestations and the conditions which aggravate it. It was found in the members of families in which various nervous diseases existed and might terminate in insanity. It was found in both sexes and the condition of isolation which it produced in those who did not appear to have the necessary strength of will to overcome it tended to produce morbid introspection and even melancholia.

Dr. URQUHART said these studies of psychical conditions were of great value, especially as an approach to various mental conditions from a different point of view to that of the asylum physician.

PATHOLOGY AND BACTERIOLOGY.

WEDNESDAY, JULY 29TH.

Snake Venom and Anti-Venomous Serum.[1]

Professor A. CALMETTE, Director of the Pasteur Institute, Lille, read the following paper:—I have already recorded in a series of memoirs published since 1892 in the *Annales de l'Institut Pasteur* and in the *Compte Rendus de l'Académie des Sciences*, the results of my researches on the venom of snakes, on the immunisation of animals against this venom, and upon the production of an anti-venomous serum. Professor Fraser has confirmed the facts that I have published and has successfully repeated almost all my experiments. I bring before you, to-day, a series of new facts relative to the same question. I may say at the outset, in contradiction of the opinion recently expressed by certain physiologists, that it is fully proved that the venoms of the various species of snakes produce physiological phenomena which have certain features common to all and that the actions of these venoms only differ as regards their local effects. It is now possible to separate, artificially, the substances which produce the local phenomena from those which produce the bulbar

[1] We shall publish Professor Calmette's lecture delivered on this subject on Monday, July 27th, at the Laboratory of the Conjoint Board, in our next issue.

intoxication. This separation may be effected by means of heat. If any sample of venom be thrown into watery solution and heated at 85°C. for a period of fifteen minutes the albumin contained in the solution is coagulated and the phlogogenic substances are destroyed, whilst the toxicity of the substance is entirely unaffected. MM. Phisalix and Bertrand have already demonstrated this fact in the case of the venom of the viper found in France. After heating at 85° C. and filtration all venoms, both viperine and colubrine, produce the same effects; they only differ as to the degree of their toxic activities. Similarly all are destroyed by the hypochlorites of the alkalies and by chloride of gold, the use of which substances I have suggested—particularly the hypochlorite of lime in a solution of 1 in 60—for the local treatment of snake bites, to prevent the absorption of the venom. Quite recently M. Phisalix, assistant in the Paris Museum, has announced that he has succeeded in separating the vaccinating substance of venom by filtering it through a Chamberland filter. The animals into which this experimenter inoculated the filtered venom did not die, and he found that they were vaccinated against the inoculation of a lethal dose of non-filtered venom. I have repeated these experiments with the greatest care, but the results that I have obtained are very different from those obtained by M. Phisalix. When a solution of normal venom is filtered through a Chamberland bougie a great part of the venom is kept back by the porcelain, just as is the case when microbic toxines are similarly filtered. It is certainly found necessary to use two and a half times more of the filtered venom than of the non-filtered venom in order to kill animals of the same weight, but if before filtration care is taken to separate the albumin of the venom by heat, it is found that the porcelain no longer keeps back any of the toxic substance. The animals are killed by the same dose of solution both before and after filtration. It follows very evidently, therefore, if the venom which has not been freed from albumin is less toxic after filtration than before, that this must be due to the fact that the albumin adheres to the porous wall of the filter, so forming a perfect dialysing membrane through which the venom can pass only with very great difficulty. I have been able to prove this by restoring a certain proportion of albumin by means of the addition of normal serum to venom that had previously been deprived of its albumin by heat. On filtering this venom containing the added albumin I found that the liquid which passed through the filter was again considerably less toxic. Animals which have received filtered venom and which have not succumbed after the lapse of three days to resist a minimal lethal dose of venom—i.e., they do not die; they are already vaccinated, just as are those that have been injected with a less than lethal dose of normal venom. There is, I believe, no reason to suppose that, as has been maintained by Phisalix and Bertrand, there is brought about by heat or by filtration of venom any separation of two substances, the one toxic and the other vaccinating, which are supposed to be found together in normal venom. This hypothesis does not appear to me to be in any way justified by experiment, and it is absolutely certain that if one inoculates an animal with a quantity of heated venom or of filtered venom of which the toxicity has been modified in sufficient quantity to kill the animal it will react exactly as if it had been injected with a dose of normal venom a little below that required to produce death. In both cases, and in the same time, the animal acquires through this inoculation a state of resistance which enables it, at the end of several days, to receive with impunity an amount of venom capable of killing animals of the same weight. The serum of animals vaccinated against one species of very active venom, such as the venom of the cobra for example, is perfectly antitoxic as regards the venom of all other species of snakes and also, as I have been able to prove, against the venom of scorpions. I again insist upon this statement because it has recently been traversed by Dr. Cunningham and I am ready to repeat before a commission the experiments that I have made on many occasions upon this subject. The best method of procedure for the purpose of vaccinating large animals destined to produce antivenomous serum consists in injecting them from the outset with gradually increasing quantities of the venom of the cobra mixed with diminishing quantities of a 1 in 60 solution of hypochlorite of lime. The condition and the variations in the weights of the animals are carefully followed in order that the injections may be made less frequently if the animals do not thrive well. Quantities of stronger and stronger venom are in turn injected, first considerably diluted and then more concentrated, and in order that the animals (horses) may give a serum equally active for the various phlogogenic substances which determine the various local actions it is necessary, when they have already acquired a sufficiently perfect immunity, to inject the venoms derived from as large a number of different species of snakes as possible. The duration of the treatment is of considerable length, at least fifteen months, before the serum is sufficiently active to be used for the purposes of treatment. The serum that we actually prepare at the Institut Pasteur, Lille, is active to the degree of $\frac{1}{33,333}$th, that is to say, it suffices to inject, as a prophylactic dose, into a rabbit a quantity of serum equal to the 200,000th part of its weight in order to protect it against a dose of venom killing an animal of equal weight in three or four hours. If this serum be injected after the venom it is sufficiently active in a dose of $\frac{1}{2}$ c.c. given thirty-three minutes after the inoculation of a dose of venom lethal in three or four hours to prevent the death of the animal. Large quantities of this serum have been sent during the last few months to India, to Cochin China, to Australia, and to other countries where venomous serpents are most frequently met with, and we have already been able to collect certain interesting observations on people bitten. It is, however, very difficult in the greater number of instances to obtain information as to the species of venomous snake that has inflicted the wound. It has seldom been found possible to kill or capture on the field the snake inflicting the bite, so that all the statements as to the species of the snake which have not been so determined must be considered as open to some suspicion. I have already published one case, a most conclusive one, that of an Annamite bitten very severely in the hand by a cobra at the Bacteriological Laboratory of Saigon who was cured by a single injection of 10 c.c. of serum. I have quite recently received the report of another very interesting case for which I am indebted to Mr. Hankin, director of the Laboratory of Agra in India. The patient in this instance was bitten by one of the most dangerous reptiles found in India, the Bungarus. I cite textually the letter as it was communicated to me by Mr. Hankin.

Copy of a Letter from Surgeon-Captain Jay Gould, dated from Nowgong, Central India, June 12th, 1896.

"MY DEAR HANKIN,—A thousand thanks for your anti-venomous serum received yesterday; it is strange that it should have arrived just at the time that I was preparing to communicate to you a case that I had last night. I was starting for mess last night when Mr. Hodgekinson of the Fifth Regiment of the Bengal Cavalry arrived at full galop to tell me that one of his Punkah coolies had been bitten by a snake. Happily Mr. Hodgekinson was on the spot and was able to tie a very tight ligature around the limb just above the ankle. Within ten minutes we had injected 20 c.c. of serum in the abdominal wall and immediately afterwards injected locally a solution of hypochlorite of lime, 1 in 60. The patient had been bitten on the dorsal aspect of the left foot between the second and third toes. There was a distinct mark of the fang, but only a very slight puncture with a speck of blood indicating the point. After the injection, in spite of the symptoms of terror I was able to observe nothing special. The ligature was removed an hour after the injection. An hour later there had been no rise of temperature, the pulse was full and slow, and there was not a single bad sign or symptom. Twelve hours after the patient was perfectly well and was going about. The snake was undoubtedly a *Bungarus Caeruleus* fully grown, measuring twenty-eight inches in length. Unfortunately the syces had killed him before I arrived, so that I was not able to test his virulence. Without doubt the man had been bitten but I do not know whether badly or not. He maintains that he had been bitten severely. Mr. Hodgekinson had applied two very firm ligatures immediately after the bite, but I cannot help thinking that if the man had been more severely bitten there would have been more marked symptoms. I have three cobras in my bungalow; in one or two days I will try to remove their venom, when I shall probably have a considerable amount.—Yours sincerely

"(Signed) JAY GOULD."

It has, therefore, been fully demonstrated both by experiments on animals and by the actual treatment of snake bites in the human subject that we have in anti-venomous serum a "specific" remedy which is very efficacious against venomous bites. It is, therefore, surely necessary to hasten to distribute it in all those countries where dangerous snakes are found. The only real difficulty consists in procuring sufficient quantities of venom for the immunisation of large animals, such as horses, to furnish adequate quantities of serum. The Pasteur Institute at Lille actually possesses enough venom, and horses completely immunised numerous enough for the most pressing wants. Serum prepared in an absolutely pure condition can be preserved for more than a year without losing any of its curative properties. In all countries where snakes claim their numerous victims and especially in India, where the annual number of deaths resulting from venomous bites rises to

about 22 000, it would surely be expedient that the various Governments should take steps to establish depôts, at least in the principal agricultural, forest, and mining districts, where medical aid may be afforded as early as possible to every person bitten who comes to seek treatment. Each of these posts should be supplied with (1) a stock of serum, renewed each year; (2) hypodermic injection syringes; (3) a perfectly freshly prepared solution of hypochlorite of lime and other medicaments and instruments necessary for the dressing of wounds. The expense of effecting such an organisation would be very slight. I ask you, gentlemen, to pass unanimously a resolution that may have the effect of inducing, or affording justification to, the Indian Government to realise this humanitarian scheme.

OPHTHALMOLOGY.

WEDNESDAY, JULY 29TH.

This Section was opened by the PRESIDENT with a short address, which appeared in our columns last week.

Pathological Anatomy of various Tissue Changes at the Macula Lutea and of certain forms of Keratitis.

Professor T. P. NUEL (Liège) then gave a demonstration on the Pathological Anatomy of various Tissue Changes at the Macula Lutea and of certain forms of Keratitis. This must be regarded as the most noteworthy communication in the sectional meeting of this day. By means of a lantern the exquisite specimens that he had prepared were made visible to all, while members had an opportunity of studying the same preparations at their leisure with microscopes after his demonstration. His preparations included cases of albuminuric retinitis in which the exudations in the layer of Henle were clearly seen, illustrating the pathology of the small white spots familiar to all in that disease. A case of glaucoma showed a well-marked œdema in the layer of Henle; another case showed a detachment of the retina due to this cause. There were two striking cases of œdema in the layer of Henle limited to the macula; in one the retina was on the point of perforating. In another striking case the rods and cones were entirely destroyed at the macula by a similar exudation. The subject of toxic amblyopias was then touched upon. He showed that contrary to the common interpretation of these affections, the primary change was in the macula. The nerve changes were rather of the nature of an ascending degeneration due to the destruction of their trophic centres in the ganglion cells in the retina. As has long been known the macular fibres in the optic nerve are alone affected—i.e., the temporal sector of the optic disc and the central part of the optic nerve in its orbital course. Evidence of exudation or sclerosis in the connective tissue of the septa of the nerve was completely wanting. The view of this condition being due to a retro-bulbar neuritis must therefore be given up. He showed a specimen from a dog which he had rendered blind by giving it filix mas. In this case inspection of a section of the optic nerve showed that there had been no inflammation but an acute ascending degeneration from the primary destruction of the retinal trophic centres. His specimens of certain forms of keratitis were also very instructive. It was especially to be noted that in his sections of the cornea in keratitis punctata there were to be seen certain curious spiral figures in the corneal tissue. These stained well, could be readily seen with a low power of the microscope, and were of considerable length, but their nature was not quite obvious. They have certainly not been previously described. In some cases of hypopyon he showed pus coming from the ciliary body in the region of the ora serrata. Several preparations showed pus cells penetrating the lymphatic spaces of the iris and even perforating its attached border. A specimen was also shown in which the cornea was infiltrated with mycelium.

Pathology and Bacteriology of Purulent Keratitis.

Professor Uhthoff and Dr. Axenfeldt being absent, Mr. LAWFORD read an abstract of their paper on the Pathology and Bacteriology of Purulent Keratitis in Man. With regard to ulcus serpens they had always found it due to infection from Fraenkel's pneumococcus and had noted that it could not be produced in the cornea of a rabbit.

Degenerative Results from Lesions of the Cortex of the Occipital Lobe.

Dr. CECIL SHAW then read a paper, illustrated by lantern slides, on the Degenerative Results from Lesions of the Cortex of the Occipital Lobe. His experiments had been performed on monkeys. In some cases the left occipital lobe was completely removed and in others sub-cortical lesions were produced in the left occipital lobe. In the latter a large number of degenerated fibres were found in the left half of the corona radiata, but a smaller number of degenerative fibres in the right half. Bilateral fibres of degeneration were found in the posterior part of the corpus callosum in all cases. Hemiopia was also noted in all cases.

Operative Treatment of High Myopia.

The discussion on the Operative Treatment of High Myopia was then opened by Mr. J. B. LAWFORD. After pointing out what consideration should be given to the age, health, social environment, and duties of each patient before deciding on this course of treatment, he drew special attention to the condition of the eye itself. With regard to the degree of myopia he said that eyes with less than 11 D or 12 D of myopia were unsuitable cases. Van Hippell had reported cases of myopia from 35 D to 50 D upon which he had operated with success, so that there seemed to be no upper limit to the degree of myopia, provided that the condition of the eye itself was favourable. He thought that the most favourable cases were those under the age of twelve. He recommended somewhat free discission of the lens, followed in a few days by evacuation of the anterior chamber with its contents of swollen lens substance. He had abandoned iridectomy, as the preservation of the circular pupil was of more value optically in these cases than in those of senile cataract. The results show a great diminution of refraction and an increase of visual acuity. The beneficial effects of the operation in the visual acuity are partly to be explained by the gain of light. When glasses are worn there are five surfaces at which reflection takes place; after the operation, if no glass is needed, there is only one. A more important point, however, is the increase of size of the retinal images owing to the alteration of the dioptric system of the eye. He stated that the size of the retinal images was increased threefold by the removal of the crystalline and the abolition of the concave correcting lenses. As to the duration of the eye after the operation, in four cases out of sixty-eight he had to give an unfavourable report. Cases, however, had been reported in which only one eye had been operated on, and this eye alone had remained intact, detachment of the retina having occurred in the eye which had not been treated. He had some reason for thinking that shortening of the eye and diminution of the posterior staphyloma took place in some cases.

Mr. RICHARDSON CROSS regarded detachment of the retina as due to a senile change rather than as caused by myopia or by the operative treatment in these cases. In thirty-six of his cases of detached retina only five had occurred before the age of thirty. He gave details of the cases of myopia which he had treated by extraction of the lens, in one of which a myopia of -22 D, V $\frac{2}{6}$, was converted into a hypermetropia of $+2{\cdot}5$ D, V $\frac{5}{6}$, another myope of -22 D, V $\frac{4}{6}$, after the operation with $-1{\cdot}5$ D saw $\frac{6}{6}$.

Mr. A. S. PERCIVAL demonstrated by a reference to optical formulæ that in aphakia the posterior pole of the eye should be situated 31·1 mm. behind the cornea in order that it should be emmetropic. Each millimetre of defect or excess of this length would require a correcting glass of $\pm 0{\cdot}71$ D placed in front of the eye. In the normal condition each millimetre of defect or excess of 22·8 mm. required a correcting glass of $\pm$ 3 D. If a case, then, was not complicated by "curvature-myopia" the result of the operation would be a diminution of the refraction by about 25 diopters.

Dr. ARGYLL ROBERTSON warned members against operating on one eye only when binocular vision was present for fear of divergent strabismus following such interference.

Dr. RAYNER BATTEN gave interesting details as to his cases. He regarded the operation as often distinctly beneficial to the condition of the eye. He had seen in the eye on which he had operated the sclerotic assume a firmer whiter appearance, the choroid appear less thin, and the retinal vessels more tortuous, whereas on the opposite site the enlargement of the globe apparently was increasing, the sclerotic looked bluish and bulging, and the retinal vessels appeared stretched.

The PRESIDENT and Mr. JULER also made remarks.

Mr. LAWFORD in summing up referred to the difficult

question of operating on a child—say, of ten years of age—with a progressive myopia of 8 D or 9 D. Should he be operated on at that age or should the operation be deferred until his myopia was greater and the optical conditions were more favourable? Meanwhile pathological changes might have occurred which were of grave importance. There was much to be said on both sides.

THURSDAY, JULY 30TH.

Precision in Squint Operations.

A discussion on this subject was opened by Dr. PATRICK MAXWELL (Dublin), who said his paper was based on 168 cases of convergent squint, of which his notes were sufficiently detailed for statistical purposes. In 71 per cent. of these cases the squint was observed before the age of three. The average refraction of each eye was +3 D. The average vision of the sound eye was $\frac{5 \cdot 5}{6}$, whereas that of the squinting eye was $\frac{6}{18}$; the angle (gamma) γ also averaged nearly 2° less in the squinting eye, and seemed to diminish as the amblyopia increased. In every case the degree of squint was measured in angles by a perimeter and averaged about 30°. In 57 cases in which a simple tenotomy was performed the average reduction of the squint on the second or fourth day after the operation was 17·5°; when again tested some fourteen days afterwards the reduction was found to be about 15°. On the contrary, when the sound eye was subsequently tenotomised the final reduction was found to be greater than the primary. After alluding to the various operations of advancement introduced by De Wecker, Swanzy, Argyll Robertson, and Prince, a method which he had lately practised was described. For this a special instrument was necessary, which showed on a scale how much the tendon was raised from the globe and was intended to indicate during the operation how great a shortening might be anticipated. The amount of squint that an eye should have, were it entirely due to hypermetropia, was 3° for each dioptre. In 40 cases the immediate consequence of correcting the hypermetropia was slightly less than what would have been anticipated on this assumption. In 17 of these cases after wearing the glasses for two months it was found that more than the calculated reduction of the squint had taken place. In such cases presumably more than 1 m.a. of convergence was associated with 1 D of accommodation. If after two months of glasses more than 8° of squint remained tenotomy should be performed.

Prof. LANDOLT (Berlin) pointed out that squint depended essentially upon the innervation from the convergence-centre and not upon an anomaly of the converging muscles. The credit of the cure of squint was rather to be attributed to the *vis medicatrix naturæ* than to the surgeon who set back a muscle a definite number of millimetres. The centre of rotation of the globe is not a fixed point; after tenotomy the eye was drawn forward by the oblique muscles and the centre of rotation with it. The object of the surgeon should be to strengthen the weak muscles rather than to weaken the strong. In convergent strabismus of some standing the externi became weak, as shown by the diminution of abducting power. An advancement operation is, therefore, preferable to a tenotomy.

Dr. BERRY (Edinburgh) said in some cases precision is undesirable as it is found that children often tend to get well. In cases of older standing the accommodative element is constant, whereas the permanent element of squint tends to increase. He differed from Professor Landolt in his explanation of the diminution of the power of abduction, regarding it as due to an inability to relax the innervation to convergence. He referred to the diminution of ranging movements in normal individuals when converging.

Mr. BICKERTON (Liverpool) said if precision was to be obtained they must follow in the steps of Dr. Stevens. His method was to snip only a few fibres of the tendon at a time, test the result by the photometer, repeat the operation, test again, and so on until an accurate result was obtained.

Dr. MAXWELL, in reply, said that he allowed 5° of squint to remain when operating.

Snellen's Operation for the Extraction of Senile Cataract.

Dr. BERRY then read a paper bearing the above title. The operation consisted of an incision occupying half the corneal margin with a large conjunctival flap. Pilocarpine was instilled before the operation and iridectomy was not performed. He recommended the operation strongly, saying that the anterior chamber was usually re-formed in an hour or two and that prolapse of the iris did not occur except occasionally during the operation, when it was easily replaced.

Mr. CROSS (Bristol) thought that healing took place more readily when a conjunctival flap was made, but had found the hæmorrhage sometimes troublesome. He disapproved of what is called the "toilette" of the wound.

The PRESIDENT and Dr. MAXWELL also made remarks.

Professor LANDOLT showed a pair of Orthoptic Spectacles which he had found of great advantage in discission operations on secondary cataract. They were convex prismospheres with their bases inwards.

Dr. BERRY, in reply, said he had found no trouble from the hæmorrhage during the operation if the conjunctival flap were only large enough.

Evisceration.

Mr. BICKERTON then read a paper advocating the advantages of Mules' well-known operation of Evisceration and inserting an artificial vitreous in the cavity of the sclerotic. Some cases were shown.

Mr. JULER (London) and Dr. MAXWELL made remarks.

Formation of an Artificial Pupil by Extra-ocular Iridotomy.

Mr. LAWFORD (London) read a paper on this subject. The operation was devised by Schöler to avoid the difficulties and risks of De Wecker's intra-ocular iridotomy. A corneal incision was made with a keratome; the pupillary margin was picked up by special iris forceps with milled, not toothed, extremities, and gently drawn outside the corneal wound. The iris was then divided by one stroke of the scissors in a direction at right angles to the pupillary margin. The iris was then with the utmost care replaced within the eye. The artificial pupil formed was small wedge-shaped, its apex pointing towards the periphery.

Dr. BERRY, Mr. BICKERTON, and Mr. JULER considered that equally good results could be obtained by an iridectomy performed with Tyrrel's hook.

The Cure of Nasal Obstruction.

Mr. BICKERTON then read a paper on the Cure of Nasal Obstruction. He showed some hollow silver styles which had been introduced to his notice by Dr. Fox of Philadelphia. The upper end of the tube was bent at nearly right angles to the shaft and formed a short gutter which could lie in the canaliculus and drain the lacrymal secretion away. These styles if occasionally cleansed could be worn for several years without discomfort. Their insertion into the duct was rendered easier by mounting them previously on a probe which could subsequently be withdrawn.

The PRESIDENT spoke of the styles with approval, saying that they were the best he had ever used.

Colour Vision Testing for Mariners and Railway Servants.

Mr. BICKERTON read a paper on the New Rules of the Board of Trade with regard to Colour Vision Testing for Mariners and Railway Servants. It was imperative that essential alterations should be made in the Board of Trade regulations regarding their visual tests. Youths were allowed to enter without restriction for service at sea and, after training themselves for the higher offices in this service for several years, were subjected to visual tests by persons who were totally incompetent to apply them. One who fails at a colour test cannot be re-examined; he is, however, allowed to appeal; if successful in his appeal the expenses of his appeal, under certain circumstances, will be allowed him. Recently 38 per cent. of those who appealed were successful. The Board of Trade examiners, therefore, not infrequently made mistakes, and such mistakes entailed the wrecking of a man's life. He urged that the examination should be made by ophthalmic surgeons, who were alone competent to execute the tests efficiently, and, further, that these tests, however rigorous it might be thought desirable to make them, should be passed on entrance, and not after the candidate had spent the best years of his life in qualifying himself for a mate's certificate.

FRIDAY, JULY 31ST.

The Effects of Nasal Obstruction on Accommodation.

Dr. MAXWELL read an interesting paper on the above subject. He had found in his experience that patients complaining of accommodative asthenopia very frequently suffered from nasal obstruction and catarrhal deafness; not that they complained of the nose, but on examination adenoids or other obstructions existed in their upper respiratory passages. Further, on appropriate treatment being

applied to the nasal condition all symptoms of accommodative asthenopia were relieved. The beneficial results of the nasal treatment were especially marked in those asthenopes who frequently or habitually breathed through the mouth. He gave details of five cases in which cure of the accommodative asthenopia followed treatment directed towards the nasal passages alone. He suggested a reflex nervous influence as an explanation of the loss of accommodation. The afferent impulse travelled by the fifth nerve, and the efferent by the long ciliary nerves, which on stimulation, he asserted, not only dilated the pupil but lessened or abolished accommodation.

Dr. RAYNER BATTEN (London) had frequently noted the presence of asthenopia in association with nasal disease. He would, however, suggest a vascular rather than a nervous explanation. On compressing the nostrils and attempting to inspire with the mouth closed it would be found that one's far point approached; in other words one became virtually myopic. On making an effort at expiration under similar conditions, one's near point receded so that one became temporarily presbyopic. He attributed these results to the emptying and filling respectively of the ciliary body with blood. He called attention to a peculiar condition of the fundus which was almost invariably associated with nasal affections. This was the presence of a staphyloma on the nasal side of the disc, the disc itself being tilted towards the nasal side. The retinal vessels on leaving the disc were at first directed towards the nasal side, their macular branches making a sharp bend towards the temporal side.

The Treatment of Corneal Opacities by Electrolysis.

As Dr. EDGAR STEVENSON (Liverpool) was absent his paper on the above subject was read by Dr. MACKAY (Edinburgh). The frequency of corneal opacities and the very disappointing results obtained by the use of stimulating ointments rendered this subject of interest to all engaged in ophthalmic practice. Dr. Stevenson had seen the method of electrolysis practised by Dr. Adler. He had, however, modified Dr. Adler's process by using much weaker currents and a different terminal with much success. He used a current of $\frac{1}{4}$ to $\frac{1}{2}$ milliampère with a pressure of 3 volts; the anode was placed on the cheek of the opposite side; the kathode consisted of a smooth silver probe which was applied to the nebulous cornea. He urged that the kathode should be gently moved over the surface of the nebula the whole time, and that the utmost care should be taken that the current never exceeded $\frac{1}{2}$ milliampère. An ampère-meter and a rheostat should always be used in order to register and regulate the amount of current passing. Some slight frothing due to the electrolysis would occur. Notes were then read of some old-standing cases which had long been treated by stimulating ointments without success. The improvement under electrolysis was marked in all of them. Finally he urged that not more than fifteen applications should be made consecutively, as if that limit was much exceeded the cornea tended to become soft and its curvature might be altered.

Mr. HOLMES SPICER made some remarks on Dr. Adler's method and the modifications introduced by Dr. Stevenson.

A paper was then read by Mr. BEAUMONT in the absence of the author, Mr. KENNETH SCOTT, on a Simple Operation for Ectropion.

Dr. ARGYLL ROBERTSON briefly described a new operation of his own for this condition, which he proposed to publish shortly.

A resolution was then proposed by Dr. MCGILLIVRAY, "That our secretaries take steps that the proceedings of the Section of Ophthalmology be adequately reported in the Journal of the Association."

The motion was seconded by Mr. BICKERTON, and on being put to the meeting was carried unanimously.

DISEASES OF CHILDREN.

WEDNESDAY, JULY 29TH.

What are the Elements of Success and Failure in Tracheotomy in Children?

The PRESIDENT, Dr. FINLAYSON (Glasgow), took the chair shortly after 10 o'clock and addressed to the meeting a few words dealing with the subject announced for discussion. He then called on

Dr. HECTOR CAMERON (Glasgow) to introduce the subject of What are the Elements of Success and Failure in Tracheotomy in Children? Dr. Cameron said he had felt two misgivings in preparing for this discussion. First, that it was a trite subject for the section's notice, but this he hoped might be obviated by his chiefly dwelling on his personal experiences; secondly, the elements of success and failure in diphtheria will be probably markedly influenced by the antitoxin treatment, and of this he had not had much experience. He proposed to confine his remarks almost entirely to tracheotomy for asphyxia in diphtheria. Most medical men would say if appealed to that one of the first and greatest elements of success was to be found in early operation. There was meant by this only early or late with reference to respiratory difficulty. When respiration was difficult, with voicelessness, croupy cough, and retraction of chest, then came the time for tracheotomy. These conditions might improve but were almost sure to recur and get worse. Sometimes there was a confusion of ideas, and the words early and late were thought to apply to the course of the diphtheria. There was more chance of success in an operation done in the later stage of diphtheria than in the time of early onset, as it was done in convalescence, and there was less danger of the wound taking on diphtheritic action. Operations in the first two or three days of the disease, often disappointing those done later on, when the force of the complaint is spent, are much more satisfactory. If the antitoxin treatment be pronounced successful probably we shall get the earlier stage operations more successful also. The various difficulties of tracheotomy were then dealt with. To avoid hæmorrhage keep strictly to the middle line, get the tracheal rings bare before opening the windpipe, and let the outer wound correspond accurately with that in the trachea. Stop bleeding before opening the trachea or blood may be sucked into the bronchi, which may, of course, be immediately fatal through suffocation, or in a case quoted in detail be followed by pneumonia, putrefactive inflammation of lung, and abscess thereof. *Secondary* hæmorrhage could be caused by ulceration into innominate vein by the end of the tube. This occurs almost entirely in acute cases, one of which was quoted. It was a case of tracheotomy, not for diphtheria, which took scarlet fever directly afterwards. The end of the tube ulcerated into the innominate artery, a process comparable to that of a pessary ulcerating through the vesico-vaginal wall of a woman who had typhoid fever. Subcutaneous emphysema was generally due to faulty operation opening out the loose tissues of the neck. It was sometimes troublesome after opening the trachea, especially if the incision was not in the middle line, the air got driven into the tissues of the neck. Pneumo-thorax was more rare and generally a sequel of mediastinal emphysema, which was commoner than ordinarily imagined or noticed. The tube is introduced and the child stops breathing. What has happened? Either it has been pushed in between the rings of the trachea and the layer of membrane or it has pushed the stripped off membrane into the trachea. (A specimen of membrane with beautiful cast of the bronchi was handed round.) The speaker had had two cases of prolapse of the thymus gland into the lower angle of the wound, it could be easily pushed back with the finger, and was no trouble when the tube was in place. The escape from the wound of fluids which have been swallowed is an occasional cause of trouble and anxiety. Slow swallowing and the administration of semi-solid food will stop this. It is evidently not due to ulceration through the trachea or to diphtheritic palsy as it disappears when the tube is removed. The larynx seems to lose its alertness when a tube is in the trachea, and so ceases to prevent the entrance of any foreign body; this is probably the true explanation. The extension of the membrane to the bronchi is the greatest danger after tracheotomy. On the second or third day after tracheotomy, when the patient has had a spell of quiet or rest, there perhaps becomes increased cough, restlessness, swelling of the neck, little or no secretion into the tube, and patches of membrane may appear on the wound. The breath is very foul and the dyspnœa is not relieved by the tube, however often this be taken out and cleansed, and is no better than before the tracheotomy. The prognosis is as bad as can be. These are the cases which probably will be most relieved by antitoxin.

Mr. A. H. TUBBY (London) remarked on the prognosis ranging with the age of the patient in tracheotomy. Under one year recovery was almost impossible, under two the prognosis was bad, and better with every year's advance in age. The reason for this might be that the disease attacked the

younger children with greater severity, that they were less able to withstand it, or that their tracheas were smaller and so easier blocked. He never used the hook in operating. Great points tending to success in course of operation were to have the head and neck kept in one straight line and to commit the retractors to one person only. In the after-treatment he condemned the use of a tent and steam-kettle and advocated the removal of the tube as soon as possible. This was sometimes prevented by granulations or by spasm or paralysis of the larynx. The tube should be permanently out of the throat by the fourth day at the latest.

Dr. MANSEL SYMPSON (Lincoln) said that where a case of undoubted diphtheria with membrane on the fauces, swollen glands at the angle of the jaw, croupy cough, brassy tone of voice to comparative voicelessness, dyspnœa, with retraction of the chest walls, did not yield at all appreciably in an hour or two to the influence of a tent and steam kettle tracheotomy should be done at once. He had been greatly interested in Dr. Cameron's distinction between operations done in the early and late stages of diphtheria, as it helped to point out that the chief cause of fatal results lay in the spread of the membrane into the smaller tubes. This, in an investigation he made into the causes of death in diphtheria in two wards of St. Bartholomew's Hospital in ten years, he found to be far the most frequent cause of death from diphtheria. Sometimes, indeed, as in a case under his observation in which he finally had to perform tracheotomy, the membrane seemed to start first in the lungs and to spread upwards to the trachea, larynx, and fauces. He agreed with Mr. Tubby in urging strongly the removal of the silver tube after the first day and replacing it by a Morrant Baker rubber one and getting rid of this altogether in two or three days' time. Sometimes a broncho-pneumonia occurred after tracheotomy and carried off the patient without the formation of any more membrane.

Mr. RANKIN (Kilmarnock) mentioned a case where after a cast of membrane had been expelled it was re-formed, and asked if there was any treatment to prevent such re-formation.

Dr. ASHLEY CUMMINS (Cork) said as regarded stopping hæmorrhage before opening the trachea, that act, by freeing the respiration, did so of itself, especially if the hæmorrhage were venous. He always kept the trachea open by forceps on each side of the wound in the trachea for some little time, so as to swab out with wool moistened with carbolic acid and bicarbonate of soda, which mixture he also used in the form of a spray, as it tends to prevent the dryness which is often a sign, with swelling of the throat, of the spread of membrane. When fluids enter the larynx his plan was to feed the child with its head low; the larynx gets insensitive during the presence of a tube. He did not approve of a tent and steam-kettle as it caused over-heating and smothering, and there was not sufficient ventilation. Spray on the wound keeps it quite moist.

Dr. A. BRONNER (Bradford) recommended that wherever proper supervision of the patient was available intubation should be performed as soon as possible. Tracheotomies with the antitoxin treatment did better than without. The membrane came away much more easily and in smaller masses. It prevented the formation of membrane. Where there was scarcity of assistance he preferred the higher operation near the cricoid cartilage, as there was less danger of hæmorrhage. He never used the hook. Perfect asepsis or antisepsis should be carried out, no dirty feathers used, &c. The tube should have an opening in the outer tube, so that when the inner one is removed the child breathes through the larynx. In cases where there is some obstruction after tracheotomy the wound should be examined by a speculum. He had come across a case of acute laryngitis with complete obstruction to both bronchi in turn by mere swelling of the mucous membrane.

Dr. ROBERTSON would hesitate much before recommending tracheotomy to general practitioners in the country. He would try perchloride of iron and spray, and believed many cases would pull through without operation, of which he narrated one from his own experience.

Dr. RENTON (Glasgow) emphasised the admiration of Dr. Cameron's paper expressed by previous speakers. He had the highest opinion of intubation; it was easy to learn and do, can be done quickly, and tracheotomy can be done afterwards if needful. A certain number of cases recover without anything else being done. Earlier interference is gained and the parents more readily consent to it as contrasted with tracheotomy. Also, the child breathes through a natural passage—not through a new opening. In ordinary croup intubation was generally successful. One danger in diphtheria was that the tube might push membrane before it (in which case tracheotomy should be performed at once if the membrane be not expelled), but he had never come across this accident.

The PRESIDENT desired to add his condemnation of the tent and steam-kettle as reducing the force and vitality of the child. There were two great dangers after tracheotomy—the extension of diphtheritic membrane, which might be prevented by antitoxin; and the development of broncho-pneumonia, which sometimes was due to inhaling fluids from the wound, and would be prevented by appropriate antiseptic treatment. He questioned Dr. Renton's use of the word croup apart from diphtheria, and expressed the thanks of the meeting to Dr. Cameron for so excellent and interesting a paper.

Dr. CAMERON, in reply, said he, too, never used the hook; he considered it unnecessary and a little apt to disturb the relations of the wound. The tent and steam-kettle should be abolished as enervating and hurtful. A large sponge, wet with some hot antiseptic solution, answered all purposes much better. He had heard of two cases of death after removal of the tube in which post mortem nothing could be found to explain it. He believed it was due to nervous disturbance; the larynx had to learn again how to conduct the breath. Polypi on the tracheal side of the wound sometimes gave trouble when the tube was removed. The character of the case really governed—the operation being skilfully done and the after-treatment well carried out—the success or failure of tracheotomy. Severe cases were not satisfactory. Sometimes there was membrane in the bronchi and none in the larynx or trachea.

Dr. HUNTER MACKENZIE read a paper on Papillomata of the Larynx in Children.

Dr. RENTON then read a paper on the Treatment of Tuberculous Glands, as did Dr. STILES, followed by Dr. BRONNER on the Importance of an Early Diagnosis and Treatment of Nasal Obstruction in Children.

THURSDAY, JULY 30TH.

Sporadic Cretinism.

The Section met in the Ophthalmological Room for the convenience of showing the lantern slides in a darkened room. There was a very good attendance of members present, when the President, Dr. FINLAYSON (Glasgow) called upon Dr. W. R. PARKER (Kendal) to give a lantern demonstration of forty-eight photographs of cretins, which he had collected with a great amount of trouble. The photographs illustrated the effect of thyroid treatment and formed a most successful and interesting exhibit. Sixty per cent. of the cases were females, and the length of treatment varied from half a year to two years. A large number of the slides were double, showing the cretin on one side before, and on the other after, treatment by thyroid extract. The difference was very marked, those who had been treated were thinner, they had grown remarkably, and had a comparatively intelligent appearance. The protruded tongue, protruberant abdomen, umbilical hernia, and lordosis, with other deformities, were much improved. One child showed livid patches, a kind of purpura (?), all over the body, which, with a prolapse of the anus yielded to treatment in five months' time. Dr. Parker suggested the query whether, seeing that the thyroid treatment cures these umbilical herniæ so certainly and speedily, it could not be tried in other forms of rupture. A very interesting case was that of a goitrous cretin. Afterwards came a series of slides of cretins who had not been under this treatment, the youngest of whom was an infant cretin, who lived twenty minutes. One from Queensland showed the development of cretinous characteristics as the patient grew—at two years old, four years, and six.

Dr. TELFORD SMITH (Lancaster) said that the effect of treatment reached a certain stage and stopped there, and the good effects were apt to disappear unless treatment was kept up. (In a case mentioned this had been done for four years.) The weight of the thyroid varied and the degree of mental dulness seemed to vary with this. The nearest approach to cretin idiots is the group called by Dr. Langdon Down "Mongols," some of whom may be almost semi-cretins. There is considerable facial resemblance between the two classes; they are small and stunted, slaver,

protrude the tongue, are apathetic idiots, have low temperature, and much thickness of subcutaneous tissues. They are the last children of large families, unfinished as it were, and the mother has been exhausted by many confinements or subjected to much care and worry. There is very little trace of the thyroid in them. The thyroid treatment had been tried on them with not very great results, though they improved in growth, dentition, and hair, were less myxœdematous, mentally brighter, and more spontaneous. The effect on the temperature was little marked, whereas in the cretin it was raised to normal and kept there with one 5 gr. tabloid daily. Sometimes under thyroid treatment the bones of cretins grew so fast that they became soft and yielded, especially as the patients moved about more, so that it was necessary to keep them lying down for a time. The younger the patient the more effect the treatment had.

Dr. JOHN THOMSON (Edinburgh) wanted a more concise and detailed prognosis of cases. He showed some excellent slides to illustrate the greater degree of improvement in children, less in adolescence, and still less in adults. One child grew 5¼ in. in the first year of treatment, 4¾ in. the second, 2½ in. in the third year, or in four years she increased in stature from 32 in. to 45 in., being not far off normal at the latter height for her age. The hands and feet of older cretins change little. Further slides showed the bending of the legs under treatment as mentioned and the change in the growth and character of the hair. The mental change was perhaps overrated. Still there was improvement in all his five cases. The bodily functions were all performed better and there was increase of power to exercise their muscles. There was absence of capacity for counting. Their shyness passed off and they were not so dull or morose.

Mr. VICTOR HORSLEY (London) showed a slide to illustrate a case of intra-uterine rickets in a cretin as well as a slide to show rickets produced in rabbits by Hoffmeister, and in sheep and goats by Von Eisenburg by removal of the thyroid gland. He also mentioned grafting of the thyroid, which had not been performed lately, as the injection, and now the ingestion, of the raw gland and tabloids were so much easier.

Dr. FLETCHER BEACH (London) dealt with the causes of cretinism. None of those commonly put forward—such as consanguinity, intemperance, phthisis, &c, were of much importance. Neurotic inheritance counted for much. One case had goitre, and the patient was the only one of a family who was born in a valley. The proportion as regards sex of his cases was forty-three males and seventy-three females, contrasting with myxœdema, where the latter were as four to one. In sixteen cases post mortem there had been absence of thyroid. He did not agree that Mongol idiots were apathetic. Little effect was produced on them by the thyroid treatment; their brain convolutions were very coarse and simple, and the brain cells few and ill-formed.

Dr. G. E. SHUTTLEWORTH (Richmond) remarked on various cases of sporadic cretinism and gave an interesting account of one under thyroid treatment and also of the effect of the same treatment on Mongols in giving them more intellectual vivacity. He showed a photograph of a semi-cretin (proving that the class does exist) who was greatly benefited by the thyroid treatment.

Dr. GEORGE MURRAY (Newcastle) related particulars of a patient aged twenty-eight years whose vocabulary had increased during one year's treatment. This patient had improved considerably in habits. There seemed to be all grades of cretinism according to the time when disease attacked the thyroid and the amount of damage done thereto—so semi-cretins are those whose attack has come on in adolescence. He used very small doses at first—one minim of thyroid-extract increased by one drop every month. This obviated any bad symptoms.

Dr. H. O. NICHOLSON (Aberdeen) remarked on the causation of cretinism and its connexion with goitre.

The PRESIDENT alluded to three cases of his which had been shown on the screen by Dr. Parker. Those under two years old showed most striking improvement, the growth being very satisfactory. One case, under five years, though not giving such brilliant results, was very interesting, as, owing to domestic reasons, when at home the treatment was imperfectly carried out and relapses occurred with improvement again both in body and mind when the treatment was resumed. She had begun to talk and talked well, and was a great favourite. She had grown 4¼ in. in two years—from five to seven years old—a nearly normal rate at that age. Those patients who had been subject to myxœdema had suffered so much that they were willing to take pains with the necessary treatment for the rest of their lives, but as this cannot be expected in children it would be of great benefit if any such operation as thyroid grafting were of permanent instead of only temporary service.

Mr. DRAPER related details of two interesting cases, one of myxœdema and the other of semi-cretinism. This latter patient stopped growing at ten years of age and was now eighteen, and increased in weight 4 st. during the last year. The patient was bad at figures and could not count ten. The thyroid treatment, while it raised the temperature to normal, also quickened the pulse from 80 to 110 and 120.

Dr. PARKER, in reply, distinguished between three kinds of cretinism—i.e., (1) congenital, (2) arising from a cirrhotic condition of the thyroid after acute febrile attack in childhood, and (3) one closely connected with goitre.

Dr. THOMSON mentioned that his cases treated with raw gland did better than those treated with tabloids.

No other papers were read and the section adjourned.

FRIDAY, JULY 31st.

The PRESIDENT, who was supported by Dr. SOMERVILLE and Dr. CUMMINS, Vice-Presidents, took the chair about 10 30 A.M., when the room was fairly filled.

The Advantages and Disadvantages of using Sterilised Milk.

Dr. JOHNSTONE CAMPBELL (Bradford) read a paper on the above subject and commenced by mentioning the various chemicals used to prevent fermentation in milk which were, he thought, of little service and not good for the consumers of the milk. He also alluded to oxygen and the electric current filtration and cold. Heat was, he considered, the only safe treatment to render milk germ free. He gave details of Pasteurisation and sterilisation and said that the advantages of *raw* milk were that the fats were more digestible, the salts more assimilable, the casein more digestible, and the taste nicer. The disadvantages were the risks of contamination with germs of disease. To avoid these, the cows should be kept perfectly clean, the byres clean and well ventilated, each cow having 1300 cubic feet of air changed three times an hour, and of course perfect cleanliness of milkers' hands and pails. The first milk should always be thrown away, as it contained far more germs than what followed. The milk should be cooled at once But we have to deal with milk as we get it, so it is necessary to sterilise. We cannot entirely free milk from germs by boiling. It is much better, therefore, to sterilise clean milk than to try to clear dirty milk of germs which have been found in cases of cholera, typhoid fever, scarlet fever, &c., to exist in milk. The disadvantages of sterilisation are that the casein is less digestible (taking half as long again to digest); that the action of rennet is different (partly due to precipitation of calcium salts) hence there should be longer intervals between meals when children are fed on sterilised milk; the taste and smell are altered and carbonic acid gas is driven off (this might with advantage be artificially replaced); and the leucocytes are killed—a doubtful disadvantage in the present hazy condition of our knowledge of them as they exist in milk. Pasteurisation is preferable, as it changes the milk less and is very nearly as effective in freeing the milk from germs. He also referred to the idea that sterilised milk caused rickets, and gave details of a milk artificially prepared which resembled very closely the composition of human milk and to which barley-water and a little salt might be added.

Dr. COLEY (Newcastle) considered the first and greatest danger of raw milk was of it containing the tubercle bacillus. That alone should overwhelm all the disadvantages of boiling or sterilising milk by which, as well, the germs producing diarrhœa would be killed. Boiling is the crudest and easiest way of sterilisation. He demonstated Aimard's method, where an outer saucepan contained boiling water while the inner vessel had a steam jacket all round it and contained the milk, which should be boiled for six minutes, preferably longer. Also he showed a bottle in which milk could be boiled in a saucepan, the cork of the bottle being made of india-rubber, so that when the boiling was completed the cork was sucked fast into the bottle. The danger from scurvy rickets was not very great. Rickets came from want of fat in food and was not uncommon in breast-fed as well as in hand-fed children.

Dr. CARMICHAEL (Edinburgh) considered they were far behind Continental and American opinion on this subject,

and he hoped the discussion would pave the way to more action being taken by public bodies to provide centres where sterilised milk could be procured, an argument of great force in this connexion being the immense mortality among infants which still continues. The Pasteurisation of milk was sufficient for all ordinary purposes. The children fed on sterilised and Pasteurised milk were more liable to rickets than those fed on raw milk, so should be carefully watched. He agreed with Dr. Campbell that longer intervals should exist between feedings, and thought that more children were starved by giving them too much than too little food. He concluded by a vigorous denunciation of the ordinary feeding-bottle with tube.

Dr. CUMMINS (Cork) emphasised the practical lesson of the discussion—i.e., to educate the public—and referred to two cases of tuberculous infection by milk, one of meningitis and the other of cervical glands.

Dr. HENDERSON (Florence) found rickets common in Italy owing to the wet nurses in the case of poor people giving the children milk a year or fourteen months after childbirth—the second milk, as it was called. Hence arose rickets from the poverty of the supply. He advised stopping the wet nursing and feeding the children on boiled cow's milk with barley water.

Dr. MCNAUGHT (Waterfoot) saw many cases of rickets, of which more than half were breast-fed, and, like the last speaker, he attributed it to over-lactation. He believed boiled was more digestible than raw milk.

Dr. CHURCH (Edinburgh) urged that milk-sugar should be the only form of sugar added to milk, as it was better for the child.

The PRESIDENT summed up the discussion, and Dr. CAMPBELL in reply recommended in using a bottle for sterilising milk that it should be well shaken after boiling so as to distribute the fats fairly over the milk.

Bacteriology of Infantile Diarrhœa.

Dr. ALLAN MACFADYEN then read an interesting paper on the Bacteriology of Infantile Diarrhœa, which covered the ground very completely as far as present knowledge goes.

Dr. GRANGE read an abstract of Dr. FORBES ROSS'S paper on the same subject.

Imperforate Rectum.

Dr. MANSEL SYMPSON (Lincoln) read notes of a case of Imperforate Rectum, wherein the lower end of the rectum was one inch and a half from the external anal opening. After careful dissection for two inches along the coccyx, laying open the anus for an inch, a bulging was felt and seen in the middle line, which was pierced with an exploring syringe and a reassuring drop of meconium evacuated. The bowel was opened, and the child is now, a year and a half after operation, in good health. The second case was of acute intussusception in a child aged five months. Here half a foot of bowel had been outside the anus for five hours. This was replaced very carefully under chloroform, and an injection of hot water was given to complete the reduction. The intussusception, which probably started from the ileo-cæcal valve, returned twice afterwards, but was easily overcome. The child now, ten months after operation, is in perfect health.

ETHICS.

WEDNESDAY, JULY 29TH.

This Section, which met in the Lowther-street Board School, was well attended.

Address by the President of the Section.

Dr. T. F. FANSON opened the proceedings of the Section by pointing out that the subject of medical ethics might be said to consist of the following: Our duty to our brother practitioners, our duty to our patients, our duty to the world at large, and, in addition, our duty to uphold the honour and dignity of our profession.

The President's paper on the Better Government of a Provincial Infirmary referred more particularly to the anomalies of the mode of electing the medical and surgical staff to the Whitehaven Infirmary. He mentioned that at one time it was the rule of that institution to elect any practitioner to that position who happened at the time to be a governor of it, and quoted figures to show that at a particular time in its history there were fifteen medical men to look after eighty-seven patients.

Dr. CÉZILLY'S communication (which was read by Dr. MACEVOY of London) proved that medical men had substantial grivances on this subject in France.

The Abuse of the Out-patient Department of Hospitals.

It was a happy inspiration to invite Mr. C. S. LOCH to introduce the subject of out-patient abuse, and all those who were present when his valuable paper (an abstract of which we were able to give to our readers last week) was read felt that Mr. Loch had given the greatest attention to this subject so vitally important to the medical man and the public. One thing must have been evident to his audience as they listened to Mr. Loch in addition to the fact that they were gathering information, and that was the value of a knowledge of elocution. It was a real treat to listen to Mr. Loch's clear, easy enunciation of his views.

Mr. NELSON HARDY followed with a paper on the same topic. He dealt especially with the means which had been taken from time to time to mitigate the evils of the out-patient system, and laid particular stress on the fact that it was quite impossible for the physicians and surgeons attached to the hospitals to give adequate attention to the large number of people who came before them. He quoted Mr. Timothy Holmes on this particular aspect of the case, and referred to the fact that one of the great objections to medical aid associations was that the medical officers had far more patients under their care than they could properly treat. He also brought to the notice of the Section the reason assigned by Dr. Wilks, in the *Medical Magazine* for January of the present year, why the General Medical Council were afraid to take any definite action with regard to the position of medical officers attached to the medical aid associations—viz., that they (the General Medical Council) saw that the principle was very far-reaching, even including the assistant physicians and surgeons to out-patients in many London hospitals.

Provident Dispensaries.

Very suggestive remarks on this subject were made by Mr. G. H. BROADBENT and Dr. W. FRASER (Manchester). Objections were raised to the system that has prevailed for some time in Manchester of referring unfit cases that are presented to the Manchester Infirmary to the provident dispensaries, and it was pointed out that in a large number of instances such cases should have been referred to private practitioners.

It was laid down by Dr. RENTOUL that in all hospitals treatment should be given in all cases on the first application, that proper inquiries should be made by a duly appointed officer, that the medical staff should be paid for their services, and that the duration of their tenure of office should be limited to eight years.

The Section passed a cordial vote of thanks to Mr. Loch for his valuable contribution.

CLINICO-PATHOLOGICAL MUSEUM.

This exhibition of specimens was not large, but many of them were of considerable interest, and as much trouble had been taken in their collection and arrangement by Dr. Norman Walker, the secretary to the Museum Committee, the result was that this museum formed one of the most interesting collections that have graced the Association meetings. The catalogue, however, left a good deal to be desired in its contents, and visitors were left pretty much to find out for themselves the value of the various exhibits. The attractiveness and interest of these annual exhibitions, which form such an important feature of the meetings, would be much enhanced if some one was always present to give information and demonstrations on the various objects exhibited.

The collection of photographs formed a prominent feature of the exhibition, and gave evidence of the large part which this art now plays in the observation and study of disease.

Dr. W. R. PARKER (Kendal) and Dr. JOHN THOMSON (Edinburgh) showed a collection of eighty and twenty-one photographs respectively in illustration of the efficacy of the treatment of *cretinism* by thyroid extract. This is a complaint which eminently lends itself to illustration, because the alteration in the stature and in expression of features showed at once the transformation effected in the whole life of the child from one of senseless idiocy to that of an intelligent being. The duration of treatment varied from a few months to several years, and the dose from half to two or three tabloids a day, representing one and a quarter to ten grains.

Dr. J. D. DUNCAN (Carlisle) showed a series of interesting photographs of cases recently under treatment in the

Cumberland Infirmary; amongst these was one of *tuberculous affection of the skin* under the care of Dr. Lediard, which showed well the proneness of this affection to follow the course of the subcutaneous lymphatics in the same manner as it does in other parts of the body.

Dr. ALLISON (Newcastle-on-Tyne) contributed illustrations of a case of *osteomalacia* which were interesting, as showing the efficacy of treatment by bone marrow of a complaint which till lately was regarded as incurable.

On the same screen were to be seen a series of casts from the *palates of idiots*, exhibited by Dr. TELFORD-SMITH (Lancaster), showing the high and narrow arch of congenital idiocy, the high broad arch of the Mongol idiot, and the broad flat arch of cretinism. Sketches of the brains of microcephalic idiots were also shown.

Several very excellent coloured sketches of *tuberculous bone diseases* by Dr. ALEXIS THOMSON were also well placed on the screen, and beside these were found ten beautiful coloured sketches by Dr. ALEXANDER BRUCE of *carcinoma of lung*, which demonstrated the fact that the most frequent mode of invasion is from the root of the lung, hence the frequency with which the condition is overlooked until far advanced.

Mr. W. THELWALL THOMAS (Liverpool) exhibited a series of 112 photographs illustrating a great variety of *surgical conditions*. Most of these photographs had been over-exposed, a fatal error for medical purposes, as the prints thus lack definition. These were classified by the region involved, which led to some pathological confusion; but on the whole they formed an excellent illustrative series and were evidence of good work.

Dr. E. TREVELYAN exhibited sixteen normal brains illustrating various *dry methods of preparation*, the best of which was undoubtedly Fish's method. A series such as this cannot fail to be extremely useful in the localisation of cerebral diseases.

Dr. A. W. CAMPBELL (Rainhill Asylum) also showed an excellent series of plaster casts of brains.

Dr. R. W. PHILIP (Edinburgh) exhibited several brains preserved by formal (10 per cent.), the appearance of a fresh brain having been thus perfectly preserved for a period of nine months.

Professor DELÉPINE (Manchester) exhibited a series of window-frame or macroscopic sections (10 in. by 5 in.) showing different morbid conditions chiefly of the *myocardium*, hypertrophy, atrophy, arterio-sclerosis, and endocarditis. They are thin sections, mounted with gelatin between two sheets of glass, and are most useful for demonstrating morbid changes either naked eye or under low powers of the microscope. We noticed three in particular—a heart, brain, and kidney from a case of *arterio-sclerosis* (arterial hypermyotrophy) from a patient aged fifty-five. The first showed the hypertrophy of the left ventricle, which was a necessary consequence, and also tiny patches of fibrosis or fatty degeneration in the heart-wall, a consequence also of the arterial change; the brain showed the patchy softening which results; and the kidney exhibited the row of thickened arteries between the cortex and medulla.

Professor HAMILTON (of Aberdeen) showed a beautiful collection of *gelatin models* of various morbid changes. Amongst these were life-like reproductions of *tuberculosis* of the peritoneum, liver, spleen, and lungs; and two of *syphilitic disease of the lung*—one a gumma and the other a unique specimen of fibrosis of that organ—were beautiful illustrations of the two most frequent morbid changes resulting from tertiary syphilis. Carbolic acid, sulphuric acid, and corrosive sublimate poisoning were illustrated in three models, which included the tongue, gullet, and stomach. Models of the stomach and large and small intestines show well the changes which occur in that serious, but happily rare, disease—hæmorrhagic typhoid. The hands of a child who suffered from spina ventosa were life-like. We have not seen anything more perfect and true to nature than these gelatin models.

Dr. MACLAREN (Carlisle) showed a series of casts which almost rival those of Professor Hamilton in their finish and perfection. Among these were four enormous *ovarian cysts* which had been made in their original size and varnished, The largest one of these measured in circumference 47 in. and 39 in. Many of these casts, such as uterine myomata, mesenteric sarcoma, an excised half of tongue, and the cysts first mentioned, which have resulted in a favourable issue, speak well for surgery as practised at Carlisle.

Among the microscopic specimens were those shown by Dr. JAMES TAYLOR (London) and Dr. W. B. RANSOM (Nottingham) illustrating the *changes in the spinal cord* and other organs in pernicious anæmia which formed the subject of communications by them to the medical section.

A remarkable specimen of *aneurysm of the aorta* was exhibited by Dr. F. D. BOYD (Edinburgh). The patient from whom it was taken exhibited no signs or symptom during life and had not seen a medical man for fifteen years previously, but on going to take his bath one morning he was seized with bleeding from the mouth and expired in a few minutes. The two layers of the pleura of the left lung had become adherent over their entire surface, though no pain or symptoms had been experienced, and an aneurysm of the descending aorta had ruptured into a bronchus by means of one small communication. It illustrates the fact that this disease and also chronic pleurisy may exist in a very marked degree without evidence during life.

A beautiful series of permanent *preparations of the eye*, shown by Mr. JULER (London), illustrated the value of formaline (10 per cent.) as a hardening and preservative fluid by Professor Leber's process. They were mounted in gelatin and their transparency was preserved with great perfection and beauty. They illustrated comparatively ordinary pathological conditions, such as glioma and choroidal atrophy, but were the most perfect results of this method. This was especially seen in the specimen of glioma, which as a rule falls to pieces as soon as the eye is opened, though here it had been retained perfectly *in situ*, and the metallic lustre of the vitreous, pathognomonic of the disease during life, can even now been seen in this excellent preparation. Each was accompanied by admirable microscopic specimens quite equal in merit to the macroscopical preparations.

Dr. BERRY HART (Edinburgh) showed a series of casts and models illustrating operations in *prolapsus uteri*, *cervical amputation*, and *perineal tears involving the anus*. The best of these were the six showing the various stages of cervical amputation.

In this section was a short but interesting series (shown by Mr. STUART NAIRNE, Glasgow) of specimens of tubal disease which illustrated the frequency with which pyosalpinx originates either in tubercle or as a sequence of gonorrhœa in the female.

Dr. MILNE MURRAY (Edinburgh) exhibited three varieties of improvements of *axis-traction midwifery forceps*.

Exhibits of microbes are becoming more scarce amongst such collections as this, but we may notice in passing that Dr. ROBERT MUIR (Edinburgh) showed a very good illustrative collection of the *ordinary germs* such as those of anthrax and glanders, Friedlander's pneumococcus, &c., which would have been more interesting had it been accompanied by a brief descriptive reference to the cases whence the specimens were derived. He also showed a microscopic series of microbes *in situ* in the tissues which were very clearly brought out by the method of double staining. Professor UNNA showed a series of cultures of the *ringworm fungus* with a view to displaying the minute differences of growth resulting from the use of different culture-media.

Dr. NORMAN WALKER (Edinburgh) showed an illustrative series of microscopic specimens of *skin diseases*, the features of which were well exhibited by methods of double staining. Among these we noticed Unna's morrococcus, the microbe of seborrhœic eczema, in a section of skin from that disease; small-spored tricophyton which had penetrated deeply into the hair sheath, a section of an ecthyma pustule which well exhibited the micrococci along the surface of the pustule and not uniformly throughout as is generally thought to be the case. He also showed under the microscope a series of *ringworm hairs* from which the superfluous stain had been removed by iodine anilin (sufficient iodine to make it a dark cherry colour). Much difficulty was experienced in extracting the gentian violet from the hair-shaft after the fungus had been stained, but by leaving the specimen in this reagent for five minutes or so the difficulty was obviated.

In our report of the second general meeting of the British Medical Association, published in our issue of Aug. 1st, the paragraph (p. 340, col. 2, eleventh line from top), "It was further agreed, &c.," conveys an inaccurate idea of what really happened. The question of the composition of the committee was left to the Council, but Mr. Tait obtained an understanding that members outside the Council should be represented. We repeat the amendment as carried—"That the question of the amendment of the government and executive management of the Association be referred to a committee to be appointed for that purpose by the Council."

THE THIRD INTERNATIONAL CONGRESS OF DERMATOLOGY:

HELD IN LONDON, AUGUST, 1896.

INAUGURAL MEETING.

TUESDAY, AUG. 4TH.

THE first meeting was held in the large theatre of the Examination Hall, Albert Embankment, under the presidency of Mr. JONATHAN HUTCHINSON, F.R.S. The Secretary-General, Dr. J. J. Pringle, read an opening statement referring to the history of the Congress and its first two meetings at Paris and Vienna. In describing the arrangements made for this meeting he referred to the Museum and Demonstrations of Cases, which it was hoped would be very special features of the Congress. The election of Vice-presidents of Sections was then proceeded with.

PRESIDENT'S ADDRESS.

Relation of the Study of Dermatology to General Medicine.

The PRESIDENT then delivered his opening address, of which the following is an abridged report:—

It is not more than a quarter of a century since the dermatologists of Europe could be counted on the fingers, and a large meeting such as this is in itself a significant fact of the progress of science and the influence which cheap printing and cheap travelling has had on the intercourse of mankind and scientific discovery. In the consideration of the aid given to general medicine by the study of diseases of the external integument is to be found a profitable and interesting topic for the opening meeting of this Congress. Some of the best illustrations of what dermatology has done for general pathology may perhaps be found in the subjects of tuberculosis and cancer. Koch's discovery of the tubercle bacillus has added much to the precision of our knowledge respecting the diseases formerly classed as scrofulous. The repeated demonstration of this bacillus in lupus vulgaris, in lupus necrogenicus, and other forms of scrofulous sores justifies us in the claim that those maladies are essentially modifications of a tuberculous process. Whilst, however, here gratefully accepting the aid of the bacteriologist it may be wise to insist that his conclusions must still be subject to the control of clinical observation. More especially does this apply when his conclusions are negative. The failure to discover the microbe in question cannot be taken as proof of its absence, still less can it be allowed to differentiate utterly any two maladies which clinical evidence declares to be alike. Here, as elsewhere, the clinician and the histologist must work together and be willing to accept help the one from the other. Let us, then, take it as an accepted fact that the forms of lupus just named are really tuberculous and see what may be deducted from observations on them as to the general laws of the tuberculous process. First, we have in lupus vulgaris solitarius every-day proof that a tuberculous process may remain for years, nay, through a whole life, restricted to one part and showing no infective powers excepting those of strictly local extension. Cases are abundant in which patients, apparently in good health, have had patches of lupus which for twenty years have slowly advanced at their borders, but have never produced others elsewhere or been attended by any manifestations of tuberculosis. It is clear, then, that the infective power of the tubercle bacillus may, under certain conditions, be most remarkably restricted. Secondly, in lupus vulgaris multiplex with many patches each single one conforms to the law just referred to and is incapable of causing distant infection, except in the first stage, when it undoubtedly is capable of so acting, but only for a short time. Thirdly, the next general law illustrated by lupus vulgaris is that a tuberculous process which has begun in any given tissue keeps for the most part to that tissue and shows but little tendency to infect others. Different forms of lupus remain true to the tissue of their birth. Lupus vulgaris, lupus erythematosus, and lupus sebaceous keep respectively to the corium, the perivascular spaces, and the sebaceous glands. Do we not then infer that the bacillus enters into some sort of intimate partnership with the tissues in which it breeds? Possibly there may even be an affinity between such processes as those of lupus and those of cancer; the one is in the main, but not wholly, a disease caused by parasites, the other is chiefly due to a morbid mode of cell production, though it may be complicated by parasiticism. Fourthly, lupus next supplies us with proof of the possible latency of parasitic elements. I have recently seen two examples in each of which there was a period of perfect freedom from lupus for thirty years and yet the senile recurrence has been definite and severe. Surely these facts as to the long survival of potent, but wholly quiescent, germinal matter are of the utmost importance to the pathologist. Nowhere will he find them better displayed than in diseases of the skin. Fifthly, the next pathological lesson which may be deduced from what is observed in connexion with lupus is that from the same parasitic cause very different local changes may result.

Now the clinical evidence which places lupus erythematosus in the same family with lupus vulgaris is overwhelming in spite of the non-recognition of the bacillus by microscopists. The differences appear to depend not on difference as to primary cause but as to the precise *structure* in the skin primarily attacked. The malady known by the old-fashioned name of "lupus sebaceous" stands as a sort of connecting link between them. It is usually an adjunct of lupus erythematosus, but it is often solitary and locally persistent after the manner of lupus vulgaris. Many other varieties of separately named forms may be shown to be identical, and the study of many of these show that tubercle, like most other morbid processes, tends to keep to the tissue which it first attacks. These, then, are some of the general laws of tuberculous processes which have been learnt by the study of dermatology.

Similarly the study of malignant disease of the skin offers an equally attractive and instructive field for the study of malignant processes, using that term in its old sense as inclusive of all forms of malignant new growth. From a study of sarcoma and carcinoma of the skin the following laws, applicable in a more general sense, may be concisely stated:—1. That the malignant process has probably similar causes in all cases. 2. That the main predisposing causes are two—heredity and senility of tissues, and the exciting cause is a local irritation or an injury. 3. That the differences in appearances assumed by malignant growths are in direct relation with the special tissue in which the process has commenced. 4. That under the combined influence of local irritation and senility—indeed sometimes without the latter—the cancerous process may begin simultaneously in several parts at once—e.g., multiple epitheliomata of the face. 5. That chronic inflammatory or atrophic changes may often precede by a long time those which are cancerous—e.g., epithelioma of the lip from smoking, cancer in Kaposi's malady, and lupus cancer. 6. That changes which are not inflammatory, but are mere modifications of nutrition, may also long precede, and be introductory to, those of cancer—e.g., lentigo melanosis. 7. That the occurrence in the child of precisely the same form of malignant disease as in the parent—e.g., melanotic sarcoma and rodent ulcers—is sometimes so definite as to suggest that germinal matter must have been transmitted. 8. That for the most part transmutation occurs in transmission, the form of malignant disease in the offspring not being precisely the same as that in the parent. 9. That certain quite innocent growths—e.g., steatomata of the scalp—having been hereditary in several generations may gradually pass into malignant ones. 10. That certain non-malignant forms of hypertrophic growth—e.g., senile warts and cicatricial keloid—are in close connexion with the inherited tendency to cancer. 11. That whilst some forms of malignant cancer may remain local for half a lifetime others manifest the most vigorous infective powers and multiply with a rapidity little short of marvellous. 12. That certain chronic inflammations of the skin, not malignant in the first instance, tend to develop cancerous processes of peculiar type—e.g., granuloma fungoides. 13. That scrofulous tendencies are no bar to malignant action—e.g., lupus cancer.

The services rendered by dermatologists to general medicine may be illustrated in the elucidation which diseases of the liver have received from a study of xanthoma, and especially that peculiar form which is associated with diabetes. The researches of Dr. Barlow in Sclerodermia and Raynaud's disease, and of Dr. Radcliffe Crocker in Gangrenous Affections of the Skin in Varicella and other Constitutional Maladies are similar examples, and finally Dr.

Unna's monumental work on the Morbid Histology of the Skin, which is a valuable contribution to general pathology, may be given as perhaps those of the most valuable instances of services rendered to general pathology by the study of dermatology. It is only fair to add that it has been a characteristic of the British School that dermatology has always been considered as a department of general medicine rather than an isolated speciality.

There are two other burning topics which should not be altogether omitted from an occasion such as this—viz., reforms in classification and in nomenclature. Such reforms would be perhaps the greatest benefits which dermatology could confer on medicine. It would seem at the first glance that it is easier to erect a satisfactory classification in dermatology than any other department, but the contrary is the fact. The only possible way to accomplish this would seem to be by an orderly arrangement of recognised causes. By a careful study of these we might create two great divisions, as separate as the vertebrates and invertebrates in the animal kingdom—viz , of skin diseases due to local and those due to constitutional causes. In the first would be found such maladies as scabies, tinea, mollusca, porrigo, &c.; and in the second syphilitic eruptions—those due to drugs and the like. All schemes of natural classification must be based on a recognition of causes, not on similarity of outward appearance or even on histological changes. If two great groups such as these be erected we could then proceed to erect long series of subsidiary natural groups such as the following. Thus the nerve-located affections of the skin constitute a natural family of the utmost importance. In herpes and allied disorders nerve influences can be distinctly traced, though their outward features are so dissimilar, in their common features of symmetry, neuro-muscular phenomena, and the like. Again, congenital peculiarities of structure play an important part as a predisposing cause in another large group, and there again dermatology helps general medicine. In certain families several individuals may be born with peculiarities of the skin not revealed at birth, but which become evident on exposure to the ordinary surroundings of life. It might be said that their skins do not wear well. Many illustrations could be mentioned, but the most conclusive and instructive is Kaposi's disease (xeroderma pigmentosa). This disease first manifests itself by a congenital susceptibility of the skin to light—i.e., development of lentigenes; it is followed by ulcerations, then scars, and fungating cancers form around. If there are more than one in a family of children two or more are sure to suffer. The test of this congenital influence is this, Does the disease occur in several members of the same family? For all that is inherited ought to be shared by the offspring of the same parents more or less—possibly unequally, but still in some degree. The judicious application of these general laws will undoubtedly afford us help in many a difficulty as to classification. Another and important predisposing cause is an inborn liability, or idiosyncrasy, to functional disturbances of a special kind. An influence of this kind must be invoked to explain the predisposition of certain individuals to the development of drug eruptions. The fact that one patient may be covered with a framboesial eruption by taking a few grains of iodide of potassium whilst another may take with impunity as many drachms only admits an explanation of this kind. Similarly a few fragments of parsley may produce urticaria. Unfortunately, in actual practice causes such as nerve influences, heredity, idiosyncrasy, &c., are rarely met with singly, and tubercle may be concurrent in its action with syphilis, heredity with nerve influence, and so on.

In reference to the difficult question of nomenclature names are good servants but bad masters. A name which embodies all the actual facts of a disease is of great value; but names should not assume a false position and represent imaginary actualities. Such greatly impede our work. Fresh names in connexion with altered knowledge are sometimes inevitable, though some confusion may result. Our art suffers from injudicious multiplication of names, but it has received far greater loss from an unwillingness to incur blame in this respect. In this matter, as in the study of disease, we are too quick to analyse, too slow to combine and synthesise diseases. Much might be said for the use of the name of the patient in the first observed case as a designation for the disease. In this way one always has a type to refer back to, and it is not true, if the case be carefully recorded, to say that it can be useful only to the observer who uses it; and certainly such a method has the merit that it does not indicate any theories.

In conclusion, it is too much the fashion to regard skin diseases as trivial, or, at any rate, of less importance than other departments of medicine. This may be so of some few, but only a few, examples. In truth, no class of maladies causes more real distress than those of the skin, in proof of which may be mentioned the social degradation to which sufferers from leprosy are condemned. Job's final trial of patience was a skin disease, and no more distressful mode of death can be imagined than that, for instance, from pemphigus vegetans; and though skin maladies may not always be fatal nevertheless many a skin disease has marred the prospects of a life, and often has lupus spoilt the fortunes of a fair young face and condemned a sufferer to reluctant celibacy. It is sometimes the custom to open such Congresses as this with a religious service, and, at any rate, it may not be inappropriate that "I should take upon myself the function of expressing to you, and for you, the earnest desire that we may conduct the affairs of this Congress, repressing as far as possible all selfish motives and with a single and devout aim at the discovering of truth for the advancement of science and the benefit of mankind."

Professor KAPOSI (Vienna), who spoke in English, acknowledged on the part of the foreign visitors the welcome which had just been extended to them. He referred to the great services rendered to dermatology by the late Sir Erasmus Wilson.

Dr. BESNIER (Paris) agreed with the previous speaker in returning his cordial thanks for the welcome, and wished especially to record his high admiration for the excellent arrangements which had been made for their reception by the executive committee, and also the great esteem in which the President (Mr. Hutchinson) was held wherever dermatology and the many other subjects of which he was master were studied.

Discussion on Prurigo.

Dr. BESNIER (Paris), in opening this discussion, said that he would confine his remarks to the nomenclature and pathology. The papular affections brought together by Willan—strophulus, lichen and prurigo—constitute a normal and natural dermatological group. The name prurigo, accompanied with suitable qualifying adjectives, is capable of representing all the affections included in this group in the most exact manner, and the adoption of this terminology would tend to put an end to the existing confusion. In this way prurigo, strophulus and lichen are taken out of the erythemata, urticarias, and eczemas, and the group of prurigos form one by themselves. Pruritus is synonymous with the word itching; it is a symptom and must not be confused with the noun prurigo or the adjective pruriginous. As regards the pathology, it is extremely probable that the previous existence of direct or indirect blood changes of a very complex character is the essential factor in the disease. Whether the specific element is toxic or toxinic, or however its action takes place, it certainly acts on the sensory centres in the spinal cord or on the peripheral nerve endings, and produces along with pruritus, or as its result, troubles of circulation and of nutrition which lead to changes in the skin. The pruritus in prurigo precedes and dominates the skin lesion. This latter is, as it were, accidental or contingent on the former. The skin, if absolutely and appropriately protected from traumatic influences, remains entirely free from surface lesions. Many interesting experiments in proof of this last statement both in men and animals were described; it being found, for instance, that if one limb of a patient suffering from the disease be hermetically sealed no eruption appears there, although other parts are attacked.

Dr. JAMES C. WHITE (Boston), remarked that true prurigo is still an extremely rare disease in the United States as compared with Europe. Its frequency is greatest in the European country which presents the greatest diversity of races, viz.—in Austria. The only etiological factors he could recognise were defective nutrition, bad hygienic surroundings, and negligence in respect of the cleanliness and care of the skin.

Dr. J. F. PAYNE (London), like the first speaker, wished to emphasise the distinction between pruritus and prurigo. Speaking of itching (pruritus), he pointed out that itching only occurred in those parts accessible to touch, although it is totally distinct from hyperæsthesia and hyperalgesia. Itching may be defined as a feeling which leads to the peculiar act of scratching, and in the act the cerebral functions are brought in. Thus it cannot be regarded as a purely reflex act, but rather as an automatic cerebral action. Itching

and scratching are confined to the higher animals, and he thought that it was probably originally a conscious act. Hebra used to mention the case of a lunatic affected with scabies, but whose cerebral power of perceiving touch being at fault he did not scratch. The same thing happened in very young children. Facts were mentioned which went to show that the impulse to scratch is not purely reflex, but obscurely volitional and that there is an irritable condition of the cerebral centres as well as the cutaneous nerves. Turning to prurigo, which is itching *plus* a particular form of papulo-urticarial rash, he could not agree with those who regarded prurigo and lichen urticatus (or infantile prurigo) to which it was very closely allied as forms of urticaria. The papular eruption in this disease is not the cause but the consequence of the nervous irritability. Probably the nervous disturbance produces papules by the scratching, and thus a vicious circle is produced. The treatment should be directed to soothing the skin and avoiding strong soap. Diet has much influence, as, for instance, feeding the child only on milk. If it resists these methods, cerebral sedatives often have a most valuable effect, such as chloral and antipyrin. The sleep so produced breaks the vicious circle. This also confirms the view that it is an irritability of both the central and peripheral nervous system—i.e., an unstable condition of the sensory nervous system, just as chorea is an instability of the motor part. The cortical centres are developed during childhood, and if in the development of these centres a constant irritation is present, a permanent and chronic vicious irritability becomes developed which lasts through life.

Professor MCCALL ANDERSON (Glasgow) regarded lichen urticatus of childhood as a totally distinct disease from prurigo. The former belonged, he felt sure, to the group urticaria, and the latter was quite distinct from lichen and strophulus. He was in the habit of applying the adjective pruriginoid to all eruptions due to scratching, and its cause could often be identified by its locality.

Dr. FEULARD (Paris) narrated the results of an analysis of eighteen cases of prurigo in children. In the great majority of cases there was marked constipation and a characteristic whiteness of the tongue showing gastric disturbance.

Dr. COLCOTT FOX (London) could not regard prurigo and lichen urticatus as identical with each other, their symptoms and progress appeared to him so totally different.

Dr. UNNA (Hamburg) had found in prurigo elementary necrotic changes in the prickle cells which were not, however, due to the scratching. He thought they were characteristic of the disease, and he would like to know if others had found the same thing.

Dr. SAVILL (London) mentioned the beneficial results he had obtained from the use of calcium chloride in large doses (twenty or thirty grains thrice daily) in the treatment of prurigo, which fact went to support the view that the disease was due to a blood change of a complex nature, for calcium chloride had been shown to bring about a marked change in the quality and composition of the blood.

Dr. NEISSER (Breslau), Dr. TOUTON (Wiesbaden), Dr. JADASSOHN (Breslau), Professor PETRINI DE GALATZ (Bucharest), and Dr. JANOWSKY also took part in the debate.

SECTION FOR SYPHILIS.

WEDNESDAY, AUG. 5TH.

Syphilitic Re-infection.

A discussion on Syphilitic Re-infection was opened by Mr. EDWARD COTTERELL (London), who read a paper of which Mr. Alfred Cooper and Mr. Cotterell were the joint authors. He gave a sketch of the history of the subject, and pointed out that there were several conditions which must be satisfied before there could be any certainty that a second attack had occurred. One condition was that there must be satisfactory proof that the first disease was an attack of true syphilis, and this could only be obtained by direct evidence from the surgeon who saw the case at the time. Another condition was that the sore produced at the second attack must run the ordinary course. The second attack was often, as might be expected, milder than the first attack. There were several conditions which might be mistaken for the primary sore—namely, a relapsing chancre, a gumma, herpes, and chancroid. The conclusion arrived at in the paper was that one attack of syphilis, though generally conferring lifelong immunity, does not always do so, and that re-infection of syphilis, although rare, is certainly possible.

Dr. HENRY FITZGIBBON (Dublin) said he looked upon syphilis as a specific fever of the same class as the other major exanthemata, and that like variola the first attack was followed by a period during which the individual was insusceptible of re-infection, but that the protective influence of one attack might die out. He also pointed out that the question of the curability of syphilis did not depend on the possibility of re-infection.

Professor PETRINI DE GALATZ (Bucharest) did not believe in the possibility of re-infection. He said that he felt sure that if it had been possible cases would have been recorded by many careful observers, who said they had never met with such cases. It was very easy to mistake a tertiary lesion for a primary sore.

Dr. C. R. DRYSDALE (London) had never seen any condition looking like re-infection which he had been unable to explain otherwise. If re-infection were possible, it ought to be far commoner than it was said to be.

Dr. WICKAM (Paris) said that Professor Fournier had never seen a case and this fact was sufficient to make it extremely unlikely that re-infection ever occurred.

Dr. GEORGE OGILVIE (London) read notes of a case of Re-infection. A medical man in 1876 had a typical attack of syphilis, and there was corroborative evidence that the source of the infection was syphilitic. In 1891 an absolutely typical attack of syphilis occurred. On each occasion the patient was seen by several surgeons; so that there could be no doubt in the diagnosis. Mr. Hutchinson had previously brought forward 54 cases of re-infection, but in only 13 of these was the re-infection indisputable.

Professor PELLIZARI agreed that re-infection was very rare, but he was sure it did occur.

Dr. VIENNOIS saw a child who had contracted syphilis at the age of three years. Eighteen years later when he was twenty-one years old he contracted syphilis, which ran a typical course.

Dr. GUNTZ (Dresden) said he could see no reason why syphilis should be an exception to the general rule of the re-infectibility of specific diseases.

Dr. SCHUSTER had seen two cases.

Professor JULLIEN thought re-infection possible, but considered the protection afforded by one attack was complete.

ZAMBACO PASHA (Constantinople) had doubted the possibility of re-infection, but he had met with a case which had made him change his opinion. It was rare, but it certainly occurred.

Dr. BRANDES (Aachen) had seen re-infection in cases which had been under his own care.

Dr. LARRIEN spoke of cases of re-infection which he had seen.

The PRESIDENT said that in hospital practice it was rare for a patient to see the same surgeon if the patient were to return to the hospital after fifteen or twenty years; but in private practice a patient would be very likely to return to the same surgeon if he were to have a fresh attack, and so all his cases of re-infection had occurred in private practice. The fifty-four cases he had published were all satisfactory to his own mind. About some of them he did not think anyone could have any doubt. There is much in individual peculiarities which may make re-infection probable in one case and not in another.

Various Papers.

ZAMBACO PASHA read a paper on Leprosy and Syphilis, in which he contended that the older accounts of leprosy contained cases which were syphilitic, and that contagiousness, which was still attributed to leprosy, was a relic of this confusion.

Dr. JADASOHN (Breslau) read a paper on A Rare Syphilide.

Mr. ERNEST LANE (London) described the results obtained from Intravenous Injections of Cyanide of Mercury for Syphilis. He had had seventy-six cases so treated and the improvement was very rapid.

THE Second Annual Report (1895-96) of the Affiliated Benefit Nursing Associations states that during the second year of the society eighteen new associations have been started. The balance-sheet shows £9 13*s.* in hand, with a debt owing of £9 9*s.* 0½*d.*, making a total of £19 2*s.* 0½*d.*, but against this must be placed a loan of £20. There has been a loss of £13 10*s.* 6*d.*

Medical News.

VICTORIA UNIVERSITY.—The following candidates have passed in the undermentioned examinations:—

FACULTY OF MEDICINE.

Ch.M. Examination.—J. H. Ray, M.B., Owens College.

Final M.B. Examination.

Part I.—Mark Aungier, J. E. Dutton, Walter Graham, A. S. Griffith, H. M. Henderson, D. G. Hurter, F. S. Pitt-Taylor, J. E. Smith, Robert Sutherland, and J. H. Willett, University College; Edgar Baldwin, T. F. Bamford, W. H. Bateman, William Bradley, J. J. Butterworth, H. J. Crompton, J. I. Halstead, Harold Hartley, Alfred Lomas, W. T. Melling, G. C. Phipps, A. M. Pilcher, John Prestwich, Harold Thorp, and J. V. Watson, Owens College; and Arthur Firth, J. R. Lambert, J. H. Mason, C. H. Moorhouse, and F. E. Taylor, Yorkshire College.

Part II.—T. W. Arnison, *George Ashton, F. J. Batten, Robert Bleasdale, G. F. Bowman, H. M. Brown, *A. H. Burgess, Charles Coventry, M. B. James, H. F. Jeffery, A. W. Lilley, Ernest Monks, †Newman Neild, G. S. Nickerson, W. H. S. Nickerson, †A. E. Normington, *J. S. Ross, †T. A. Rothwell, J. D. Whitaker, R. H. Wilshaw, James Wood, and †H. B. Woodcock, Owens College; †H. M. Cake, J. H. Davies, †R. E. Laslett, J. G. Martin, Thomas Morris, †Philip Nelson, W. B. Williams, and A. A. Wood, University College; and †S. T. Rawling, Yorkshire College.

* Awarded First-class Honours. † Awarded Second-class Honours.

Second Examination.

A.—Anatomy and Physiology.—D. A. Alexander, G. P. Barff, H. F. Hart, F. W. Inman, J. E. W. McFall, and G. H. Wyse, University College; F. H. Allen, H. R. Clarke, E. C. Dutton, T. W. Hart, Walter Hickey, J. C. Hindley, William Rigby, W. H. Tattersall, William Thompson, and A. G. Wilkins, Owen's College; and Joseph Goodall, H. C. Ling, R. V. A. Mosley, and J. B. O'Donoghue, Yorkshire College.

B.—Materia Medica and Pharmacy.—G. P. Alderson, T. T. Bark, Robert Burnet, J. S. Byrne, C. H. Ferguson, J. T. Grierson, S. F. Linton, J. W. Miller, E. C. Roberts, T. J. Thomas, and R. D. Willcocks, University College; T. P. Allen, W. E. Bamber, Roland Beesley, J. P. Brown, W. J. Butcher, H. H. Bywater, A. H. Capamagian, C. H. Dawson, E. W. Falconer, A. E. Finney, Charles Garner, I. W. Hall, Henry Holt, S. K. Hutton, W. G. Kinton, L. R. Lempriere, C. J. N. Longridge, A. S. McNeil, F. A. Morrison, A. E. Rayner, T. E. Regan, H. W. Russell, Harry Scholefield, C. E. Silvester, Harold Snape, Herbert Terry, George Unsworth, H. W. Whiteley, W. J. Woodyatt, and P. R. Wrigley, Owens College; and W. J. W. Anderson, J. D. Andrews, S. W. Battle, Godfrey Carter, W. R. A. Coates, P. R. Crossland, C. H. Greenwood, Henry Hime, A. E. Horsfall, C. E. Horsfall, W. A. Illingworth, F. W. Johnson, J. E. H. Lambert, Hugh Lett, Armitage Morton, A. S. Parkinson, Percival Pollard, G. M. Sharpe, W. A. Stott, and A. R. Thompson, Yorkshire College.

First Examination.

Part II. Biology.—Granville Ainsworth, Arthur Anderson, M. B. Arnold, E. M. Ashcroft, Fred Bullough, Everard Claye, A. N. Collier, J. F. Corson, Daniel Cowin, C. W. Crawshaw, T. H. B. Dobson, D. J. Ferris, R. B. Fletcher, Walter Garstang, D. G. Gellatly, F. G. Hack, C. R. Hall, W. D. Hamer, G. R. Heath, James Hindshaw, A. S. Hopper, L. C. Johnson, Reginald Lawrence, C. H. Lee, H. F. Lee, H. S. Lister, James McIlraith, G. E. Malcolmson, A. F. Martin, T. F. Okell, Albert Ramsbottom, Sidney Renshaw, C. A. Ricketts, F. M. Rodgers, C. W. S. Saberton, W. R. N. Smithard, George Taylor, Thomas Tierney, T. A. Welch, T. B. Williams, H. M. Williamson, A. G. Wilson, J. D. Windle, and W. A. B. Young, Owens College; Alexander Anderson, E. W. Anderton, Henry Brown, W. F. Ellis, A. H. B. Fletcher, H. S. Harling, P. A. H. Radcliffe, Thomas Scatchard, J. H. Sutcliffe, R. W. Taylor, and C. R. Willans, Yorkshire College; J. L. Beddoes, Philip Benington, J. H. Billing, C. W. Budden, P. I. Caddow, J. L. Dimond, Frederick Griffith, E. F. Hoare, R. E. Kelly, James Louden, J. C. Mann, T. F. Pugh, E. E. Roberts, J. N. M. Sykes, and F. P. Wilson, University College; and J. A. Davies.

FACULTY OF SCIENCE.

Intermediate Examination.—H. S. Bally, University College; P. S. Barlow, Mary G. Findlay, Mabel A. King, Elsie Leach, Wilson Stuart, Ernest Tinker, and R. A. Todd, Yorkshire College; and W. P. Grant, Owens College.

Diploma in Sanitary Science.—H. E. Annett, M.B.; W. J. Howarth, M.D.; W. B. Mercer; and Meredith Young.

Teachers' Diploma.—Mary K. Marsland, B.Sc., Owens College.

Sanitary Inspection Certificate.—James Aspinall, Samuel Brookshaw, J. C. Clegg, J. W. Croston, J. D. Gregory, Rachel Irwin, Howard Parker, and Thomas Townend, Manchester Technical School.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the July sittings of the examiners of the Triple Board held in Glasgow, the following candidates passed the respective examinations, those marked with an asterisk (*) passing "with distinction":—

First Examination (Five Years Course).—David S. E. MacNab, Shotts; James Noble, Glasgow; David Crombie, Glasgow; Percival H. Rainbird, Lincoln; Thomas M'Donagh, Galway; Albert E. Ward, Partick; Joseph B. O'Mahony, County Cork; Thomas B. Adam, Glasgow; John B. Walker, Sunderland; John T. Griffiths, Flintshire; Mary E. Potter, Ballinrobe, county Mayo; George Evans, county Derry; Thomas Little, Kilmarnock; Robert E. Naish, Devonport; Harry M. Roberts, Glasgow; Albert S. Sieger, Greenock; William J. Buckmaster, Castletownroche; John E. M'Intyre, Largs; Stuart J. Farries, Nottingham; *Alaxander Scoular, Carluke; Alice Miles, Biggar; Thomas Henderson, Glasgow; David Fitzgibbon, county Cork; James F. Shone, Alnwick; Louis M'Sherry, Cookstown; Angus M'Innis, Old Kilpatrick; Rupert E. Moorhead, Mauritius; Francis A. Gray, Ireland; Aloysius F. Fleming, county Cork; and George J. Campbell, Greenock.

First Examination (Four Years Course).—Louise Fox, India; Alfred N. Davies, Warwickshire; Andrew Dougall, Glasgow; Thomas E. Saxby, Shetland; Herbert V. Craster, Middlesbrough; Thomas W. Colthurst, Somersetshise; George G. Wilson, Rathfriland; and David R. Edwards, Carmarthen.

Second Examination (Five Years Course).—William M'Farlane, Cambusnethan; Henry A. Marquis, Lancashire; Jeannie H. Traill, Jepore, India; Sydney J. Smith, Preston; John T. K. Thomson, Glasgow; Robert Stewart, Hamilton; Alexander J. Wilson, Newmains; and Alexander F. Jack, Glasgow.

Second Examination (Four Years Course).—John Davies, Manchester; John Elliott, Shettleston; Griffiths L. Jones, Carnarvonshire; Edward A. Kirkwood, Belfast; George R. Harland, Whitby; *Hugh O. Jones, Llangollen; *Frederick George Henderson, Dinapore, India; Edward A. Clark, Clifton; Alexander L. Brown, Tranent; John Farmer, Glasgow; Thomas H. O'Reilly, Ireland; Thomas S. Ross, Ireland; David O. Rowlands, Swansea; Walter Beck, Belfast; Albert W. Swettenham, Cheltenham; Harry L. Phelps, Bristol; A. Newton Davies, Warwickshire; and David S. C. Reid, Forfar.

Third Examination (Five Years Course).—Samuel Vernon Robinson, Ulverston; Harold Chaffer, Todmorden; Edgar Huss Sheldon, Leicester; James R. Riddell, Glasgow; and Vaughan Bateson, Harrogate.

Final Examination.—James Batterby, Glasgow (with honours); William G. Pritchard, Llandwrog, North Wales; Hugh M'Kay, Glasgow; Robert A. Cameron, Springburn; William Haslam Brooks, Glasgow; Robert P. Graham, Lanark; Arthur G. Johnson, Darlington; K. Thomas Matthew, Glasgow; James H. Powell, London; Joshua H. Hall, Bolton; John E. Harburn, Whitby; Maurice M'Sherry, Cookstown, Tyrone; George M. Speers, Belfast; John Robertson, Ayr; Christopher Wm. Davidson, Glasgow; John C. Mackenzie, Glasgow; Charles A. K. Renshaw, M.A., Ashton-on-Mersey; James L. Cormac, Glasgow; Mary S. Sinclair Coghill, Ventnor, Isle of Wight; Cyrus Retullack, Edinburgh; Algernon Smith Marr, Glasgow; John Harper Wigham, Leeds; and Nicholas Charles Boyle, Teddington.

CHARING-CROSS HOSPITAL MEDICAL SCHOOL: CHANGES IN STAFF.—Mr. Astley Bloxam having resigned the chair of Surgery Mr. Stanley Boyd, formerly Lecturer on Anatomy, has been appointed to succeed him. Mr. Waterhouse, formerly Demonstrator of Anatomy, has been appointed Lecturer on Anatomy, to succeed Mr. Boyd; and Mr. Charles Gibbs has been appointed Demonstrator of Anatomy, to succeed Mr. Waterhouse. Mr. Charles Gibbs has also been appointed Assistant Surgeon and Surgical Tutor, to succeed Mr. Collum, deceased, who held these offices. Dr. Pembrey has been appointed Lecturer on Biology, to succeed Dr. Pollard, deceased. Dr. Galloway has been appointed Medical Tutor, to succeed Dr. Mott, who resigned that office on being appointed Pathologist to the London County Council. Dr. Montague Murray has been appointed Dean of the school, in succession to Mr. Stanley Boyd, resigned.

SEPARATE ACCOMMODATION FOR IMBECILES.—An important question was discussed at the last meeting of the Surrey County Council, held on July 28th. The Brookwood Asylum Committee having considered it advisable that provision should be made by the council for the separate accommodation and better care of that class of lunatics commonly termed "idiots" or "imbeciles," including children, from the whole county, had further inquired how this could best be done. A sub-committee, whose opinion was endorsed by the committee, reported against any plan for adding separate wards to the existing blocks. They thought the separation of active lunatics from idiots and imbeciles necessary; and as this should apply out of doors in their working or recreation grounds as well as in the wards, they felt that a plan of building annexes would only lead to confusion. The sub-committee recommended that buildings be erected on another site on the Brookwood estate, which they specified, to accommodate 130 males and 170 females. These figures were the result of due consultation with Mr. Barton, the medical superintendent, and the scheme included special accommodation for idiots under seventeen years of age, for whom instruction and education might be attempted. Prominent among the advantages which the sub-committee considered would result from some such general provision was the fact that boards of guardians would be relieved from the necessity of providing such accommodation. A long discussion followed on this report, but its consideration was by 22 votes to 15 "adjourned" pending a request to the County Council's Association to press for an alteration in the lunacy laws with regard to the payments for imbeciles and idiots to boards of guardians, whether maintained by them within their own walls or elsewhere.

A GARDEN party and *fête* will be held in Harrod's Depository Grounds, Barnes, to-day (Saturday), in aid of the funds of Guy's Hospital.

MEDICAL MAGISTRATE.—Mr. James McLeod, M.B., Ch.M. Edin. of Hurstville, New South Wales, has been appointed a magistrate for the Colony of New South Wales.

IN MEMORIAM.—A contribution of £500 has been received by the committee of the Paddington-green Children's Hospital from a gentleman, in memory of his daughter, to discharge the expense of furnishing and decorating with picture tiles a ward which is being added to this institution. "Æsop's Fables" will furnish the subjects to be taken for these pictures.

WE regret to announce the death of Dr. John Marshall of Chatton Park, Northumberland, who passed away on July 24th in the eighty-fourth year of his age. When a young man he studied medicine in Edinburgh University, but soon relinquished medical practice for the pursuit of agriculture and the life of a country gentleman. Chatton Park has been Dr. Marshall's residence for about fifty years. The funeral took place on July 28th in presence of a large company of friends and relatives.

DIPHTHERIA IN LONDON.—The rise in the notified cases of diphtheria in London manifested in the four-weekly period ended on June 13th as compared with the like period immediately preceding it, was maintained in the period ended on July 11th, the numbers for these last three periods of four weeks having been respectively (beginning with the earlier) 890, 1060, and 1069. In the latest period all the sanitary areas of London were invaded save one, and there were 7 districts with upwards of 50 notifications of the disease in each, the aggregate for these areas being 530, as compared with 4 such districts in the period preceding with an aggregate of 337 notifications. The weekly average of notified cases in the latter period was 267. The deaths were fewer in number than in the preceding four weeks, having been only 167, or 15·6 per cent of notifications, as compared with 196 deaths, which were equal to 18·5 per cent. of notified cases. Thus, whilst the disease has maintained its hold on London, it has been of a milder character as judged by the mortality of the period. There was an excessive amount in certain districts, Islington having 120 notifications, Camberwell 109, Poplar 74, and Greenwich 67. In the two weeks ended July 25th there were respectively 55 and 50 deaths registered in London from diphtheria, the 50 of the latter week being 7 in excess of the corrected average for the thirtieth week of the decennial period 1886-95. Of these deaths 33 were in children aged from one year to five years. Islington is credited with 6 and St. Pancras and Woolwich each with 4 deaths. The admissions to hospital in the same week numbered 94, against 103, 97, and 87 in earlier weeks, and on Saturday, July 25th there remained in hospital 737 patients suffering from diphtheria. In Greater London there were 11 deaths from the disease in the week, of which 6 occurred in the West Ham district. The issue of the quarterly return of the Registrar-General for the three months ended on June 30th enables us to see how London stood with reference to diphtheria in relation to the rest of the kingdom. The records are by no means favourable to the metropolis, as the rate was 0·51 per 1000 living, as opposed to only 0·24 in the country as a whole. In the thirty-three great towns the rate was 0·34, in sixty-seven other large towns it was 0·20, and almost identical in the rest of the kingdom, namely—0·19 per 1000. In London we find that the western and central groups of sanitary areas had each 0·44, the south group 0·51 (just the average) and the northern and eastern groups an excess, being 0·52 and 0·57 respectively. In the west, three of the eight districts exceeded the London rate, Chelsea (0·71) having the highest rate. In the north, two of the six districts exceeded the average, Islington (0·81) having the highest rate. In central London two of the seven districts had rates in excess of the Metropolis, St. Luke (0·68) showing the highest rate. In the east five of the seven districts gave bad results—namely, Bethnal Green 0·53, Poplar 0·59, St. George-in-the-East 0·67, Mile End 0·79, and Limehouse 1·24, this being the highest district-rate in London. Of the fifteen districts forming the southern group six exceeded the average, the highest rate being that of Plumstead, 1·03 per 1000. The lowest rates were in Wandsworth, Rotherhithe, and the Westminster districts.

LITERARY INTELLIGENCE.—The Profession of Medicine; its Study and Practice, its Details and Rewards, is the title of a work by Dr. Charles West, Fellow, and late Senior Censor, of the Royal College of Physicians of London, shortly to be issued. As indicated by the title the work will consist of three parts, the first dealing with conditions essential for successful study of medicine, preliminary training, medical training, and work in the hospital; the second with the practitioner's duties to his patients, obligation to secrecy, duties to his colleagues, question of consultations, general relation to public, question of remuneration, and medical clubs. The practitioner's rewards will receive attention in the third part.

DONATIONS AND BEQUESTS TO HOSPITALS.—The committee of St. Thomas's Hospital have received four sums of £1000 to be devoted to naming four beds in the hospital in perpetuity, namely—from an anonymous friend in memory of Sir Bartle Frere, from Mr. George Richmond in memory of James Richmond, from Mr. and Mrs. Charles Gassiott, and from the executrix of the late Mr. W. H. M'Alpine of Brighton.—The governors of the National Sanatorium for Consumption and Diseases of the Chest at Bournemouth have accepted an offer from Mr. George Brown, of Belsize-park, to erect a new sanatorium with accommodation for 100 patients at a cost of £50,000. The building is being given by Mr. Brown in memory of his wife, whose life was prolonged for many years by a residence in Bournemouth when suffering from phthisis.

THE DARJILING MUNICIPAL WATERWORKS.—The municipal authorities at Darjiling (India) have decided to adopt at their waterworks the method of filtration recommended by the late M. Pasteur and M. Chamberland, the present chef de service at the Pasteur Institute of Paris. The installation has been prepared by Messrs. J. Defries and Sons, Limited, the British licensees, and is to be put into operation under the superintendence of the firm's Indian agents, Messrs. Heatley and Gresham of Calcutta. The installation can be worked entirely by one man, and its nominal output which could be exceeded if occasion arose, amounts to the large volume of 150,000 gallons per diem. It will be served by a gravitation supply under a net head of about sixty-five feet. Owing to the practically indestructible nature of the tubes the cost of keeping the apparatus in working order is reduced to a minimum. The installation has been inspected by Sir David Tennant, Agent-General for the Cape; the Hon. W. Pember Reeves, Agent-General for New Zealand; Mr. G. H. Turner, general manager of the Midland Railway; Dr. Farquharson, M.P., Professor Corfield, and about sixty other gentlemen.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—At a recent meeting of the Board of Management of the Mooroopua Hospital, Victoria, Australia, the president of the hospital presented Mr. J. V. Heily, L.R.C.S. Irel., L.R.C.P. Edin., with an address expressing the esteem in which he is held by the board for his valuable services as senior honorary consulting surgeon for the past twenty years. Mr. Heily was one of the founders of the hospital in 1876. He was also presented with certificates from the Goulburn Valley Medical Association.—Dr. Thos. R. Pearson of Thornaby-on-Tees, on the occasion of his leaving that town, has been the recipient from the members of the Stockton Literary and Philosophical Society of an elegantly illuminated Address in a gold frame, together with four volumes of a rare work, "Hone's Table Book." The address was signed by fifty-four of the older members of the society, who had been associated with him during his earlier connexion with the society, which was formed in 1872, he having been a member for the past seventeen years. At the same time the Stockton Shakespearean Society presented Dr. Pearson with an oak tankard, handsomely mounted in silver, suitably inscribed, and bearing the legend, "Happiness bechance to thee, and so farewell."—Dr. Joseph Adams of Warrington has been presented by the members of the Cheshire Lines Engineers' Ambulance Class, Warrington Works, with a silver fruit and cake dish in recognition of his instruction to the class.

SOUTH-WEST LONDON MEDICAL SOCIETY.—The annual general meeting of this society was held at East Hill, Wandsworth, on July 17th. The report of the council having been read a division was taken on the proposal to give a donation of five guineas to the British Medical Benevolent Fund; the proposal was carried by a small majority. The following officers were then balloted for and elected for the ensuing session. President: Mr. Benjamin Duke of Clapham. Vice-presidents: Mr. T. S. Howell, Dr. W. S. Wyman, and Dr. Gilbert Richardson. Hon. Treasurer: Mr. A. E. Dodson. Hon. Secretaries: Mr. T. A. I. Howell and Mr. W. G. Dickinson. Council: Dr. J. M. Dunbar, Mr. John Gay, Mr. Hugh R. Ker, Dr. Malcolm Mackintosh, and Surgeon-Major Mark Robinson. Auditors: Mr. John Brown and Mr. M. G. Biggs. The retiring president, Dr. Gilbert Richardson, then gave an address on the Possibilities of Reform in our Hospital System. A discussion followed, in which Colonel Montefiore (as a visitor), Mr. T. A. I. Howell, Mr. B. Duke, Dr. W. S. Wyman, Dr. J. M. Dunbar, and others took part. A hearty vote of thanks to Dr. Richardson for his address concluded the proceedings.

THE DIFFUSION OF SMALL-POX.—The four-weekly period ended on July 11th showed a considerable rise in the number of notifications of small-pox in London as compared with the period of the same duration immediately preceding it—namely, that for the four weeks ended June 13th. In the earlier period just named there were but 17 notified cases of the disease in the county of London, whereas in the period ended July 11th there were no fewer than 62. The localised outbreak in Islington, of course, did much to swell the total, amounting as it did for 24 cases, but this did not account for the whole increase. We find as many as 8 notifications in Camberwell, 6 in Limehouse, and 5 in Lambeth. In all, 13 sanitary areas were invaded by small-pox. Oddly enough the corresponding period of last year also showed large increase over that preceding it and was followed by an epidemic which lasted for three months. In the two weeks which followed, ending on July 25th there were respectively no cases and six cases admitted to hospital in London, but no death from the disease has been registered. On Saturday, July 25th, there remained under treatment 37 patients suffering under the malady. There were no registered deaths from small-pox in any of the thirty-three great towns of the Registrar-General in the week. The suburban districts of the metropolis have now for some time been almost free from small-pox, but further afield we hear of cases springing up in Sussex, the Hangleton Hospital having received recently many small-pox patients, mostly, it is stated, from Portslade, in the Steyning district. Steyning Union, it is true, has no large amount of default under the Vaccination Acts to complain of, but there are neighbouring unions in the county where many children are growing up in an unprotected state. It is sincerely to be hoped that the malady will not spread to any of the South Coast health resorts in a manner to damage their "seasons." At Coventry the sanitary committee have had before them the state of the city in the matter of small-pox and have been informed that the outbreak of the disease there is of a very mild nature, and that all precautions have been adopted for checking its spread. The town clerk was instructed to communicate with the Local Government Board setting forth the urgency of at once sanctioning the plans for the proposed small-pox hospital. Summonses have been granted against two parents in the city in respect of unvaccinated children. The Gloucester sanitary committee have, it appears, discontinued the issue of weekly statements as to small-pox occurrences, the health of the city being deemed to approximate now to its normal condition. It would seem that the expenses connected with the recent epidemic, so far as the guardians are concerned, have been £2056, and that it has been decided to ask the Local Government Board to sanction the raising of a loan to meet the case. It will be interesting to know what is the sum total to which the citizens will have to subscribe in respect of the epidemic in all its bearings. The expenses appearing on the books of the town council will, however, we imagine, go but a very little way towards the whole, as the amount of money which must of necessity have been expended in one way and another by the public in matters of a personal character but having direct relation with the prevalence of small-pox in the town must have been excessive; and we know that charitable contributions were made with a liberal hand.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ATKINSON, F. E., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Sedbergh District Council.

BAKER, J. C., M.B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Hambledon Union.

BALDWIN, ASLETT, F.R.C.S.Eng., L.R.C.P. Lond., has been appointed Casualty Surgical Officer to the Middlesex Hospital, W.

BARNARD, C. E., M.D., Ch.M. Aberd., L.R.C.P. Lond., M.R.C.S., has been appointed a Member of the Court of Medical Examiners in Tasmania.

BEAN, HAROLD K., M.D., Ch.M. Edin., B.Sc. Edin., has been appointed Vaccinator for the Districts of Wallsend and Plattsburg, New South Wales.

BEATTIE, R. M., M.B., C.M. Edin., B.Sc., has been appointed Assistant Medical Officer to the Lunatic Asylum at Seacliff, New Zealand.

BIGGER, R. C., M.D., M. Ch. Irel., L.M.R.C.P., D.P.H. Irel., has been appointed Consulting Sanitary Officer for the Rural Sanitary Districts of the Belfast Union, vice S. Reid.

BOURKE, ERNEST A., L.R.C.P., L.R.C.S. Irel., has been re-appointed Assistant Registrar and Resident Medical Officer to the Cork-street Fever Hospital, Dublin.

CHAPLIN, ARNOLD, M.D. Cantab., M.R.C.P., has been appointed Physician to the Metropolitan Dispensary, vice Henry Lewis Jones, resigned.

CRAIG, GEORGE, M.B., C.M. Edin., has been appointed Assistant Medical Officer to the Lunatic Asylum at Auckland, New Zealand.

CULHANE, F. W. S., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Hastings Union.

CUPPAIDGE, J. L., M.D., Ch.B. Dubl., has been appointed Surgeon-Major in the Queensland Defence Force (Land).

ELLISON J., M.D., M.Ch. Irel., has been appointed a Public Vaccinator at Williamstown, Victoria, Australia.

FALVEY, F. J., L.R.C.P., L.R.C.S. Edin., has been appointed a Physician to the County Kerry Fever Hospital.

GUNNING, M. S. W., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Parochial Medical Officer for the Northern District of Montrose.

HESSEY, J. D., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the First Sanitary District of the Hastings Union.

HOLMES, F. D., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been re-appointed Medical Officer for the Little Eaton Sanitary District of the Shardlow Union.

JOHNSTONE, G. W., L.R.C.P. Edin., L.F.P.S. Glasg., has been re-appointed Medical Officer and Public Vaccinator for the Sanitary District of Upholland, Wigan.

JUCKES, F. A., M.B., C.M. Edin., has been appointed Medical Officer for the Workhouse, and the First Sanitary District of the Horsham Union.

KEYES, F. J., M.D., Ch.M. Irel., has been appointed Medical Officer of Health for Numurkah Shire, Victoria, Australia.

KING, THOS. R., M.D. Edin., has been appointed Assistant Medical Officer to the Lunatic Asylum at Wellington, and to the Lunatic Asylum at Porirua, New Zealand.

LAWES, C. H. E., M.B., Ch.M. Syd., has been appointed a Surgeon on the Medical Staff of the Queensland Defence Force (Land).

MACQUARIE, C. N., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Public Vaccinator at Milawa, Victoria, Australia.

MAIS, F. W., L.R.C.P., L.R.C.S. Edin., L.F.P.S., L.M. Glasg., has been appointed Public Vaccinator and Medical Officer for the Thorner District of the Wetherley Union, vice John J. Mais, resigned.

MUSSEN, P. J., M.D., has been appointed a Public Vaccinator for the District of Birmingham, New Zealand.

PESKETT, A. W. CHALMERS, M.A., M.B., B.C. Cantab., has been appointed Honorary Medical Officer to the Hospital for Sick Children, Nottingham.

PROCTOR, J. S., L.R.C.P., L.R.C.S. Irel, has been appointed a Public Vaccinator in South Australia.

ROBERTS, K., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Shillington Sanitary District of the Ampthill Union.

SAMSON, H. A., M.B., Ch.B. Melb., has been appointed Medical Superintendent, to the Beechworth Lunatic Asylum, Victoria, Australia.

SMITH, R. B., L.R.C.P. Edin., L.R.C.S. Irel., has been appointed Public Vaccinator, for the Burton Hastings District.

STUART, J. A. ERSKINE, L.R.C.P. Edin., L.R.C.S. Edin., has been re-appointed Medical Officer of Health for the Borough of Batley, also Medical Superintendent of Borough Isolation Hospital.

THOMPSON, J. L., M.B., M.S. Edin., has been appointed Medical Officer, Hospitals for Insane, Victoria, Australia.

THURSFIELD, W. N., M.D. Edin., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer of Health by the Dawley Urban District Council.

TODD, C. E., M.D. Brux., L.R.C.P. Lond., M.R.C.S., has been appointed Secretary to the South Australian Medical Board.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRISTOL EYE HOSPITAL.—House Surgeon. Salary £60, with board and residence.

CHILDREN'S HOSPITAL, Nottingham.—House Surgeon, non-resident, for six months. Salary at the rate of £100 per annum.

CITY OF SHEFFIELD.—Assistant Resident Medical Officer for the two City Hospitals for the Treatment of Cases of Infectious Disease. Salary £120 per annum, with board, lodging, and attendance. Applications to the Town Clerk, Town Clerk's Office, Sheffield.

HALIFAX INFIRMARY AND DISPENSARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with residence, board, and washing.

HEREFORD GENERAL INFIRMARY.—Resident House Surgeon, unmarried. Salary £100 per annum, with furnished rooms, board, washing, gas, coals, and attendance.

LINCOLN COUNTY HOSPITAL, Lincoln.—Assistant House Surgeon for six months. An honorarium of £10 and board, residence, and washing provided.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House Surgeon, for six months. Board and lodging provided.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer, unmarried, for twelve months. Salary £150 per annum, with board and residence.

OWENS COLLEGE, Manchester.—A Senior and a Junior Demonstrator in Physiology. The stipends will be £150 rising to £200, and £100 rising to £150 respectively.

ROYAL CORNWALL INFIRMARY, Truro.—House Surgeon, unmarried. Salary for first year, £120, increasing by £10 a year to £150, with furnished apartments, fire, light, and attendance.

ROYAL ISLE OF WIGHT INFIRMARY AND COUNTY HOSPITAL, Ryde.—House Surgeon and Secretary. Salary £60 per annum, with residence, board, and washing.

SUNDERLAND BOROUGH ASYLUM, Ryhope, Sunderland.—Resident Clinical Clerk, for six months. Nominal salary, with board and lodging.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £66 per annum, without alcohol.

Births, Marriages, and Deaths.

BIRTHS.

ABBOTT.—On Aug. 1st, at Pinefield, Addlestone, the wife of W. F. Abbott, F.R.C.S.E., &c., of a daughter.

BOXALL.—On July 29th, at Weymouth-street, Portland-place, W., the wife of Robert Boxall, M.D., of a son.

BROOKE.—On Aug. 3rd, at The Crosses, Thorverton, Devon, the wife of Frederick Brooke, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

GILLESPIE.—On July 31st, at Walker-street, Edinburgh, the wife of A. Lockhart Gillespie, M.D., of a daughter.

HIRST.—On July 28th, at Aspley, Huddersfield, the wife of Herbert Hirst, M.B., C.M., of a son.

LAWSON.—On July 2nd, at Mooltan, Punjab, the wife of Charles B. Lawson, M.B., A.M.S., of a daughter.

MCLEARN.—On July 30th, at the Infirmary, Archway-road, N., the wife of Dr. J. Crawford McLearn, of a daughter.

O'BRYEN.—On July 30th, at Springfield Lodge, Sydenham, S.E., the wife of Dr. Wheeler O'Bryen, of a son.

MARRIAGES.

BISHOP—ILES.—On July 29th, at St. Jude's Church, Southsea, Thomas Hill Bishop, M.D., second son of William Bishop, of Stroud, Glos., to Ethel, third daughter of the late Captain Arthur Irwin Iles, Bengal Staff Corps, St. Perran, Southsea.

FEATHERSTONE—MCKILLIAM.—On July 29th, at the Alexandra Hall, Blackheath, Joseph Arthur Featherstone, M.B., C.M., Morningside, Edinburgh, to Helen Jane, the second daughter of Robert McKilliam, M.D., C.M., Ballandalloch, Blackheath, London.

HORNER—HAYTER.—On July 29th, at St. Nicholas, Brighton, Charles Julian Horner, L.R.C.P., M.R.C.S. Lond., fourth son of William Sims Horner, of Walthamstow, Essex, to Mabel Winifred Randall, fifth daughter of the late Frank Hayter, of Lewisham.

WILLOCK—WEEDON.—On July 29th, at St. George's, Campden-hill, Richmond Cotts Willock, M.D., of Golden-square, Aberdeen, to Lucy, daughter of the late Frederic Price Weedon, of Glynfield House, Willesden, N.W.

DEATHS.

EDWARDS.—On Aug. 1st, at Amesbury, Wilts, Joseph Albert, L.S.A., second son of the late Richard Edwards, of Constantinople, aged 27.

GRANT.—Suddenly, at Bridge of Allan, N.B., James A. S. Grant, Bey, M.D., LL.D., of Cairo, Egypt, third son of the late William Grant, Methlick Villa, Aberdeen.

MADELEY.—On July 31st, at Cliftonville, George Henry Madeley, Fleet Surgeon R.N., aged 54 years.

POTTS.—On July 31st, at Albert-terrace, Regent's-park, William Potts, F.R.C.S., in his 81st year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Aug. 6th, 1896.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
July 31	29·86	E.	62	61	116	76	60	0·38	Overcast
Aug. 1	29·97	N.E.	59	57	115	75	56	...	Cloudy
,, 2	30·09	N.E.	61	59	93	66	59	...	Overcast
,, 3	30·10	S.E.	61	56	100	71	54	...	Fine
,, 4	29·94	N.	61	57	121	72	56	...	Fine
,, 5	30·06	N.E.	58	53	112	67	51	...	Fine
,, 6	30·13	N.E.	58	54	105	66	53	...	Overcast

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

The Index for the first half-yearly volume for 1896 was given in the issue of June 27th. The practice of supplying loose copies has been discontinued, the Index having been placed in the centre of the journal, whence it can easily be detached, and placed either at the beginning or at the end of the volume.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1896 are now ready. Bound in cloth, gilt lettered, price 18*s.*

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, or post free 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

A RECORD RAINFALL IN IRELAND.

JULY was an exceptionally wet month in Ireland, as rain fell on twenty-three days, and the rainfall was 7·74 inches, which beats all previous records in the north of Ireland. Most of the rain fell with a W or S.W. wind. The total number of inches of rain for 1896 is 23·59, which is exactly 2½ inches over the average to the present date. Not withstanding the unusually great rainfall little harm to crops has been reported.

PRACTICAL ILLUSTRATIONS OF THE USE OF THE "MEDICAL DIGEST."

To the Editors of THE LANCET.

SIRS,—Mr. Leggatt reports an interesting case of nerve disorder subsequent to gonorrhœa, and remarks in THE LANCET of July 25th, page 240, that he can find no notice of such attacks. A reference to the "Medical Digest," Section 1173 : 1, will guide him to an interesting case reported by of Dr. Althaus in 1876, and a further reference to the same section in the last Appendix will enable him to find other cases in many respects similar to his own.

Mr. Stevenson, at page 240, remarks that he can find no case of tetanus neonatorum healed by antitoxin. Here again a reference to Section 1330 : 6 of the Appendix to the "Medical Digest" will enable him to study some unsuccessful cases.

At page 246 a strainer for the tail valve of an enema tube is depicted. A piece of coarse net tied over the orifice forms a very efficient and easily procurable means of avoiding plugging of the valve by the entrance of foreign bodies.—I am, Sirs, yours faithfully,

RICHARD NEALE, M.D. Lond.

Boundary-road, N.W., July 31st, 1896.

Mr. A. H. Hutton.—We have not misunderstood our correspondent's communication. We entirely sympathise with his trouble, but it is one in which he should call in his medical attendant to assist him. The condition is perfectly well known, and if further advice be required the medical attendant will be able to suggest the name of the most fitting consultant.

L. S.—The books hardly constitute a complete enough course. We refer our correspondent to the Students' Number of THE LANCET of 1895, where he will find complete information on the subject under the title "The Student's Library."

Practitioner.—The facts as narrated by our correspondent should be laid before the General Medical Council, with proper verification of them.

"FREE DOCTORING."

THE following leaderette from the *Globe* of July 31st is in exact confirmation of the experience of many of our contributors :—

> "Among the undesirable articles of faith which still have firm root in the popular mind is the belief that there is nothing mean or contemptible in shirking payment for medical assistance. If all who can afford it were compelled to contribute some small sum towards the expenses of the hospitals they make use of, those institutions would have little need to appeal so constantly for monetary support. It is much the same in the case of the medical relief afforded by guardians. Here, again, it is quite a common thing for people well able to subscribe to a sick club or even to employ their own doctor, to make 'the poor face' by pretending to be steeped in abject poverty. In one instance just reported at Birmingham a married woman asserted that she was destitute; her husband was, she affirmed, both ill and absent, and she also had a sick child on her hands. But on inquiry being made it came out that the husband was receiving 32*s.* a week, that he had not gone away, and that the family means were farther swollen by 10*s.* a week, the regular earnings of a younger member. Thus the total receipts come to more than £100 per annum, an amply sufficient income to cover medical attendance of the ordinary kind. A working man in receipt of that amount is better off than most curates through his not having to maintain the outward signs of respectability. Yet, if any curate were to apply for gratis medical relief, no matter how hard-driven he might be, there would be plenty of democratic vociferation about his 'dishonesty,' or what not. The next thing will be, we suppose, the discovery that free education for the masses logically carries with it free doctoring and free medicine. Matters certainly seem to be gravitating in that direction."

Fairplay.—Is our correspondent able to prove that the cards have been "freely distributed" among his patients?

MUSK.

To the Editors of THE LANCET.

SIRS,—Would some of your readers inform me if musk still holds the place in certain ataxic affections that it did in the days of Graves and Trousseau? Is it still used in our large fever hospitals? I believe it to be a drug of the highest value in these affections, in fevers and pneumonia, but my hospital authorities desire to prevent me using it on the score that it is too dear. I am, Sirs, yours truly,

M.R.C.P.

*** The price of musk is absolutely prohibitive. The authorities are only exercising a due discretion. The qualities of musk have been highly spoken of by excellent authorities, but its value is certainly not proved by consistency in its action.—ED. L.

Mr. William Garbutt.—Our advertisement columns will give our correspondent all the information at our disposal. If he desires to find an institution in a special locality he should advertise in the paper of that locality.

VISITING CARDS.

To the Editors of THE LANCET.

SIRS,—I would be much obliged if you could inform me what is the usual and correct form of visiting card for a medical man. I do not know whether you will consider this subject within your province or not, but I should be glad of some information in the matter, as there does not seem to me to be any definite rule in connexion therewith. Thanking you in anticipation, I am, Sirs, sincerely yours,

L.R.C.P., M.R.C.S.

*** There is no rule. We shall be glad to hear what our readers think on the subject as a whole. It is unnecessary to say that the use of the title of "Dr." on the visiting card by any medical practitioner save a graduate in medicine is wrong.—ED. L.

W. H.—The paper is marked for insertion.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.).

TUESDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (2 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (12th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.).

THURSDAY (13th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.). St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.)

FRIDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.).

SATURDAY (15th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

During the week marked copies of the following newspapers have been received :—*Berkshire Chronicle, Bristol Observer, North Middlesex Chronicle, Eastern Counties Times, Umpire, Lancashire Express, Express and Star, Bradford Observer, Birmingham Gazette, East Anglian Daily Times, Manchester Courier, Sussex Daily News, Times of India, La Gazette de France, Sheffield Independent, North Star, Pioneer Mail, Cromer Post, Glasgow Herald, Evening Dispatch (Edinburgh), Newcastle Leader, South Wales Daily News, Liverpool Daily Post, Builder, Carnarvon Herald, Keene's Bath Journal, Chester Chronicle, Eastern Morning News, Mid-Surrey Gazette, Lowestoft Standard, Western Daily Mercury, Leicester Post, Yorkshire Post, Liverpool Courier, Architect, Manchester Evening News, Leeds Mercury, Bradford Daily Telegraph, Bristol Mercury, Bradford Daily Argus, City Press, Reading Mercury, Local Government Chronicle, Hertfordshire Mercury, Weekly Free Press and Aberdeen Herald, Sanitary Record, Mining Journal, John O'Groat Journal, Optician, Indian Mirror, London American News, Sunday World, Local Government Journal, Gloucestershire Chronicle, Surrey Advertiser, Scotsman, Glasgow Evening News, Kerry Sentinel, Daily Mail, Reading Observer, West Yorkshire Pioneer, West Middlesex Herald, Oban Times, Ely Guardian, Exmouth Chronicle, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Messrs. Arnold and Sons, Lond.; Messrs. Armour and Co., Lond.; Affiliated Benefit Nursing Associations, Lond., Hon. Sec. of; Anderson's College Medical School, Glasg., Sec. of; The H. R. Allen Nat. Surg. Inst., Indianopolis, U.S.A.; Anglo-Swiss Condensed Milk Co., Lond.; Apollinaris Co., Lond.

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I.—Inns of Court Hotel, Lond., Sec. of; *International Journal of Microscopy, &c.*, Bath.

J.—Mr. R. W. Jenkins, Lond.; Mr. A. Jacques, Sutton.

K.—Prof. Kitasato, Tokio, Japan; Mr. E. Knight, Lond.; Messrs. Keith and Co., Edin.

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U.—University of Edinburgh, Dean of the Faculty of Medicine.

V.—Dr. E. D. Vanderburgh, Hainan, China; Fleet-Surg. C. L. Vasey, Lond.; Volunteer Medical Assn., Lond., Sec. of; Victoria Medical Society, Melbourne, Sec. of.

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Y.—Yorkshire College, Leeds, Sec. of.

Z.—Zeta, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. G. N. Adams, Lond.; Mr. A. E. Ash, Stokeville; Mr. R. Asquith, Bishop Auckland; Mr. R. R. Anderson, Fern Hill; Messrs. W. H. Allen and Co., Cardiff; Assistant, Burnley; A. X., Lond; Anatomy, Lond; Albus, Lond.

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Q.—Quick, Lond.

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Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Terms for Serial Insertions may be obtained of the Manager, to whom all letters relating to Advertisements or Subscriptions should be addressed.

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Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière Asnières, Paris.